

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN
AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED
***PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR
INTENDED USE CHANGED***

OPERATIONS PERMIT

PERMIT # WRP-030130-2019 **APPLICATION DATE:** 12/12/2019 **BLDG. PERMIT#:** RBPR-031269-2020
PIN: 0890138608 **RECORDED:** Yes
TOWNSHIP: 02 - Bartons Creek **JURISDICTION:** Wake County **ZONING:** R-80W
APPLICANT: Raleigh Custom Homes
Matt Little
6736 Falls of Neuse RD **BUSINESS PHONE:** (919) 847-2664
HOME PHONE:
MOBILE PHONE:
HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE **EXISTING USE:**
SITE ADDRESS: 1417 SKY VISTA WAY
SUBDIVISION: SOUTHERN HILLS ESTATES **LOT:** 30 **ACRES:** 1.07
DIRECTIONS: 540 to Creedmoor Rd North, Left on Shooting Club, Right on Estate Valley, Right on Sky Vista

Systems defined as either type III-b, III-g with a pump, IV, V or VI, in accordance with the North Carolina administrative code 15A NCAC 18a .1961, table V as adopted by reference in the "Regulations Governing Wastewater Treatment Dispersal Systems in Wake County", requires Wake County Environmental Services to conduct periodic inspections of the system type pursuant to 15A NCAC 18a. 1961 (j). Fees for these inspections will be charged as per the approved Fee Schedule. In addition, all systems are to be operated and maintained as specified in 15A NCAC 18A .1961. This permit is based in part on information provided by the homeowner and/or his/her representative in the application submitted for this permit. The Environmental Health Specialist is not responsible for false or misleading information contained in the application. The environmental health specialist is also not responsible for concealed conditions on the property or for statements in this report that may have resulted from false or misleading statements provided to him/her in the application. Neither Wake County nor the Environmental Health Specialist warrants that the septic tank system will continue to function satisfactorily in the future or that the water supply will remain potable.

OPERATION PERMIT VALID FOR: No Expiration

INSTALLED BY: BRANTLEY, CORY - 1036 - IV

PROPRIETARY SYSTEM: EZ1203HG - EZFlow EZ 1203H Geo **PRETREATMENT SYSTEM:**

SYSTEM TYPE INSTALLED: III B

OPERATION PERMIT: **STATUS:** Issued

ISSUED BY: Marlena Brown

ISSUED DATE: 07/10/2020

SEPTIC TANK: David Brantley & Sons - STB-322 - 1500 gallons **DATE OF MANUFACTURE:** 01/13/2020 **FILTER:** GAG SIM/TECH - STF-110

GREASE TRAP:

DATE OF MANUFACTURE:

FILTER:

DOSING PUMP TANK: Brantley - PT-293 - 1500 gal - 30.65 gal/in

DATE OF MANUFACTURE: 03/24/2020

FILTER:

CC1: 999,808

ETM1: 22

CC2: 0

ETM2:

RECIRCULATION TANK:

DATE OF MANUFACTURE:

CC1:

ETM1:

CC2:

ETM2:

SEPTIC TANK ELEVATION: 5.33

GREASE TRAP ELEVATION:

DOSING PUMP TANK ELEVATION: 5.75

RECIRCULATION TANK ELEVATION:

DISTRIBUTION DEVICE ELEVATION: 4

INSTALLED TRENCH DEPTH	INSTALLED AGGREGATE DEPTH	INSTALLED TRENCH LENGTH	INSTALLED TRENCH BOTTOM ELEVATION
24	12	80	7
24	12	80	8
24	2	125	9.41
24	12	155	10.91
24	12	70	12

ACTUAL PRESSURE HEAD: 2

ACTUAL FLOW RATE: 43

ACTUAL DOSE VOLUME: 245

SPECIFIC OPERATION REQUIREMENTS:

-5 bedroom, 600gpd
-Pump Ashlan EP-30
-ASDMS: Book 017951 Page 01090

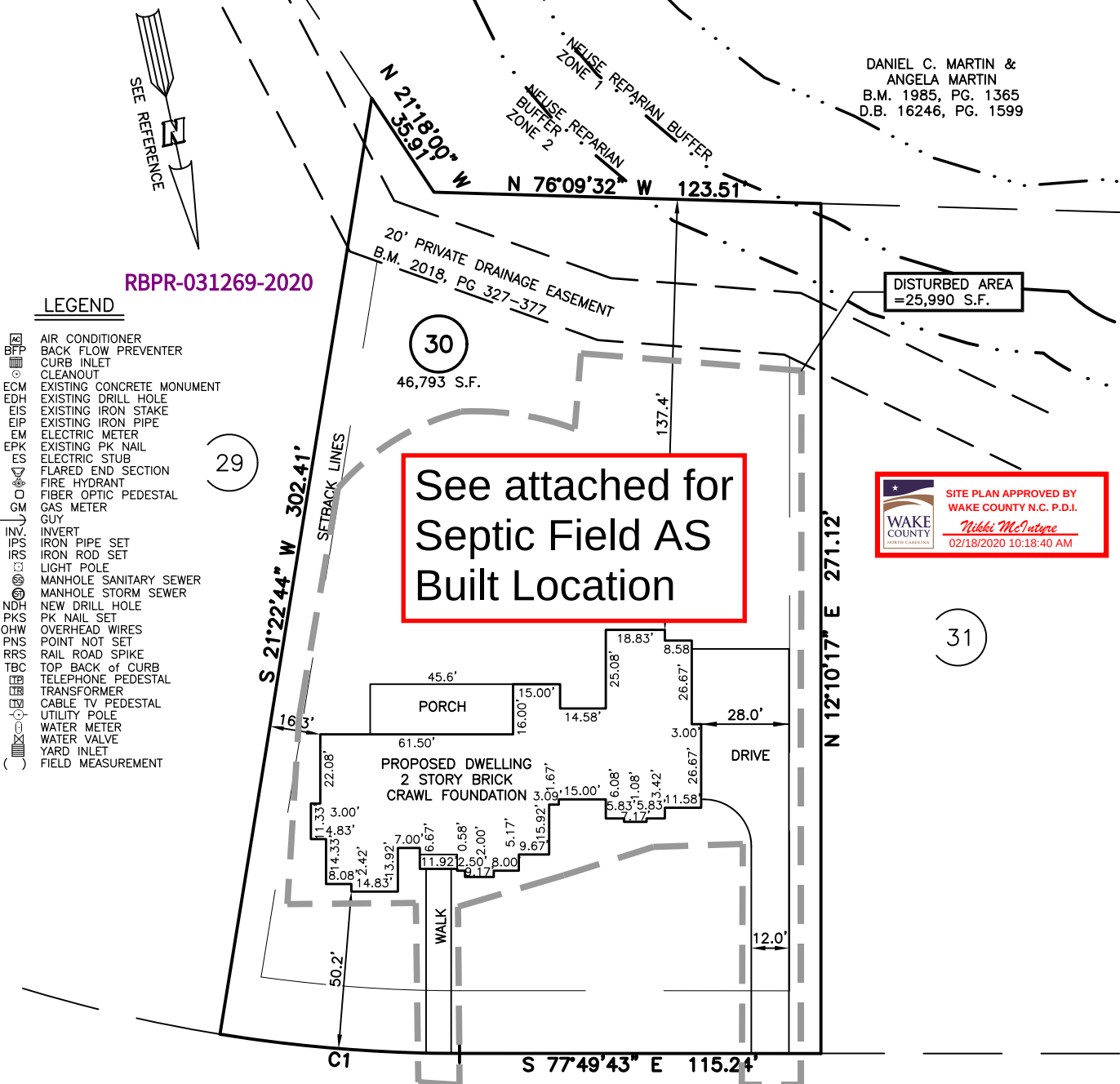
ISSUED BY:



DATE: 07/10/2020

PLOT PLAN FOR
RALEIGH CUSTOM HOMES
1417 SKY VISTA WAY
LOT 30, SOUTHERN HILLS ESTATES
BARTON'S CREEK TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

AS Built
Part A



- LEGEND**
- AIR CONDITIONER
 - BACK FLOW PREVENTER
 - CURB INLET
 - CLEANOUT
 - EXISTING CONCRETE MONUMENT
 - EXISTING DRILL HOLE
 - EXISTING IRON STAKE
 - EXISTING IRON PIPE
 - ELECTRIC METER
 - ELECTRIC STUB
 - EXISTING PK NAIL
 - FLARED END SECTION
 - FIRE HYDRANT
 - FIBER OPTIC PEDESTAL
 - GAS METER
 - GUY
 - INVERT
 - IRON PIPE SET
 - IRON ROD SET
 - LIGHT POLE
 - MANHOLE SANITARY SEWER
 - MANHOLE STORM SEWER
 - NEW DRILL HOLE
 - PK NAIL SET
 - OVERHEAD WIRES
 - POINT NOT SET
 - RAIL ROAD SPIKE
 - TOP BACK OF CURB
 - TELEPHONE PEDESTAL
 - TRANSFORMER
 - CABLE TV PEDESTAL
 - UTILITY POLE
 - WATER METER
 - WATER VALVE
 - YARD INLET
 - FIELD MEASUREMENT

See attached for
Septic Field AS
Built Location

SITE PLAN APPROVED BY
WAKE COUNTY N.C. P.D.I.
Nikki McIntyre
02/18/2020 10:18:40 AM

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	76.74'	477.50'	9°12'30"	N 73°13'28" W	76.66'

IMPERVIOUS SURFACE TABLE	
HOUSE.....	5,660 S.F.
PORCH.....	730 S.F.
WALK.....	470 S.F.
DRIVE.....	2,440 S.F.
TOTAL IMPERVIOUS.....	9,300 S.F.
ALLOWABLE IMPERVIOUS =	12,500 S.F.
PERCENTAGE IMPERVIOUS =	19.9%

SETBACK INFO	
FRONT:	20'
REAR:	15'
SIDES:	10'
CORNER SIDE:	20'

REFERENCES:
B.M. 2018, PG. 372-377



SCALE: 1" = 50'

- NOTES**
- THIS SURVEY SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED BY A FULL AND ACCURATE TITLE SEARCH.
 - THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS.

PLOT PLAN
PRELIMINARY PLAT- NOT FOR RECORDATION,
CONVEYANCE OR SALES

REV CODE: 1.FLIP, 2.PLAN, 3.ROTATE, 4.MOVE, 5.SS
6.SEVERAL OF ABOVE, 7.LAND FEATURE, 8. OTHER

REV5: JAN. 27, 2020(8)
REV4: JAN. 22, 2020(8)
REV3: JAN. 10, 2020(8)
REV2: JAN. 9, 2020(8)
REV1: JAN. 3, 2020(8)
DATE: JAN. 2, 2020
F.B. _____

RWK, PA
ENGINEERING ~ SURVEYING
CORPORATE LICENSE: C-1771
101 W. MAIN ST., SUITE 202
GARNER, NC 27529
PHONE (919) 779-4854
FAX (919) 779-4056

PLOT PLAN FOR
RALEIGH CUSTOM HOMES
1417 SKY VISTA WAY
LOT 30, SOUTHERN HILLS ESTATES
BARTON'S CREEK TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

AS Built
Part B

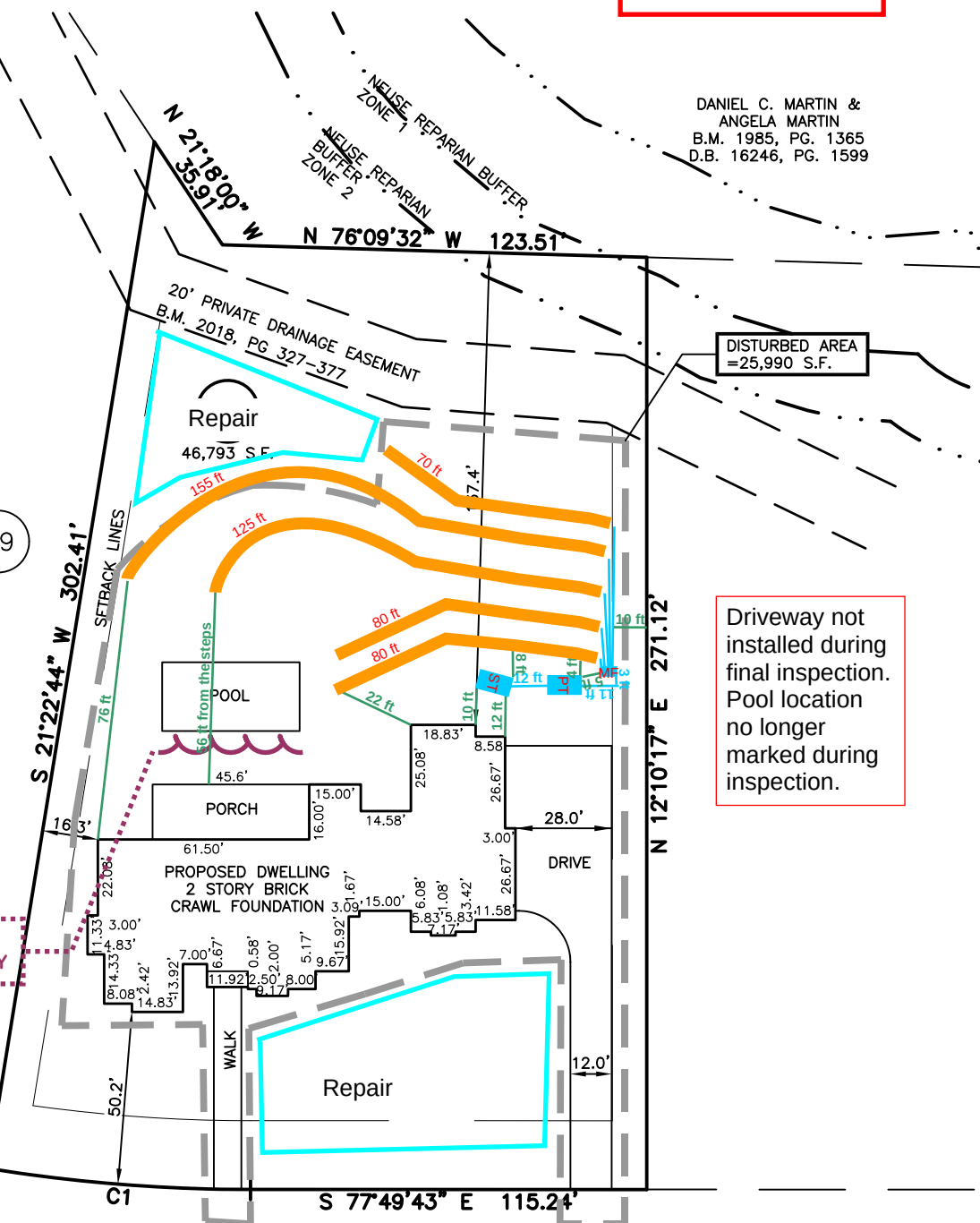
DANIEL C. MARTIN &
ANGELA MARTIN
B.M. 1985, PG. 1365
D.B. 16246, PG. 1599

LEGEND

- AIR CONDITIONER
- BACK FLOW PREVENTER
- CURB INLET
- CLEANOUT
- EXISTING CONCRETE MONUMENT
- EXISTING DRILL HOLE
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- WATER METER
- WATER VALVE
- YARD INLET
- FIELD MEASUREMENT

29

Driveway not
installed during
final inspection.
Pool location
no longer
marked during
inspection.



SKY VISTA WAY
45' PRIVATE R/W

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
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FAX (919) 779-4056

WAKE COUNTY, NC 223
CHARLES P. GILLIAM
REGISTER OF DEEDS
PRESENTED & RECORDED ON
07/06/2020 16:04:14

BOOK:017951 PAGE:01090 - 01091

ALTERNATIVE SEWAGE DISPOSAL SYSTEM MAINTENANCE SCHEDULE

To Be Recorded In The Register Of Deed's Office In Wake County.

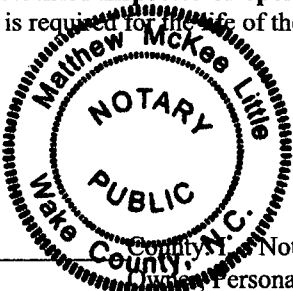
Owner/Grantor RAVEIGH CUSTOM HOMES INC. Deedbook and Page 17712 0639
PIN No. 0890138608 Date Installed 7/1/20
Subdivision Name SOUTHERN HILLS ESTATES Lot No. 30
System Designed by CENTRAL CAROLINA SOIL Installer BEANTLEY & SONS

AN ALTERNATIVE OR NON-TRADITIONAL SEWAGE DISPOSAL SYSTEM HAS BEEN INSTALLED ON THIS PROPERTY. The design specifications and locations for alternative sewage disposal systems are specified or authorized in Regulations Governing Wasterwater Treatment and Dispersal in Wake County effective November 21, 1988, amended effective October 27, 2011. As A Condition Of Issuance Of This Improvements/Operation Permit, The Property Owner Hereby Grants The Wake County Department Of Environmental Services A Right Of Access To The System During Regular Working Hours For Purposes Of Monitoring Compliance With State And Local Regulations, Recorded Maintenance Agreements And Certified Operator Compliance. This permit requires the use of **pre-treatment and a mode of subsurface wastewater dispersal for the repair system**, which will require a contract with a Certified Operator to perform maintenance on the system as described in the above referenced regulations. **Due to this requirement, the initial system must be inspected by a certified inspector or operator at a frequency of at least once every five years and a report submitted.** Experience and study have shown that pre-treatment systems require routine maintenance in order to function satisfactorily. In as much as each system must be individually designed and sited, special maintenance requirements may apply to a specific installation; however, the following maintenance schedule is applicable to all pre-treatment systems. For additional information, technical assistance or if a malfunction of the system occurs, contact the Wake County Department of Environmental Services, Telephone: (919) 856-7400.

System Component	Frequency	Maintenance
1. Septic Tank	6-12 months	Check riser condition (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation.
	1-3 years	Pump septage.
2. Pump/Dosing Tank	6-12 months	Check riser conditions (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. Pump sludge accumulation as required and when septic tank is pumped. Check pump(s), controls, floats, electrical connections, and alarm for proper operation. Wash (hose) sludge accumulation from pump housing.
3. Supply lines	6-12 months	Check for settling, pipe exposure and leakage. Includes Manifold(s).
4. Drain Field(s)	1-4 weeks	Maintain vegetative cover (mow grass and remove weeds and brush).
	6-12 months	Check for settling, erosion and surfacing of effluent. Repair any broken lateral turn-ups and make certain they are accessible from ground surface and are filled with screw-on type caps. Check and reset pressure head and flush sludge from lateral lines (any discharge sludge and effluent is to be treated with a chlorine solution). Check site drainage, eliminate low or settled areas and divert surface or shallow groundwater movement around fields.
5. General	At all times	Prohibit vehicular or equipment traffic on ground absorption field. Prohibit tillage (gardening) or other soil disturbance over ground absorption field. Practice water conservation to reduce waste water load on system. Do no permit entry or grease and non-domestic waste to system. Use of a garbage disposal is <u>prohibited</u> . Addition of chemical or biological additives has <u>not</u> been demonstrated to be necessary to maintain proper system function. Prevention of root intervention on lateral lines and trenches may be necessary on certain sites. Surface and groundwater diversion structures must be maintained.
6. Pre-Treatment	6-12 months	Check for settling, erosion and surfacing of effluent. Perform all other inspections and sampling as required in the approval of the pre-treatment device.

Initial system must be inspected by a certified inspector or operator at a frequency of at least once every five years and a report submitted. A certified operator is required for the life of the system, **once repair system is installed.**

Rtn to:
Raleigh Custom Homes, Inc.
P.O. Box 99439
Raleigh, NC 27624



[Signature]
Signature of Property Owner
7-2-20
Date

NORTH CAROLINA Wake County, N.C. Notary Public of the County and State aforesaid, certify that Timothy W. Thompson Personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this 2 day of July 2020.

My commission expires 5-5-22 Notary Public [Signature]
WWDS 1/29/16



Environmental Services

TEL 919 856 7400
FAX 919 856 7407

Water Quality Division
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602

2/28/2020

REQUIREMENTS TO COMPLETE YOUR PRESSURE MANIFOLD SYSTEM

NAME: RALEIGH CUSTOM HOMES
ADDRESS: 6736 Falls of Neuse RD., Raleigh, NC 27615
Re: Pressure Manifold Wastewater Dispersal System
SEPTIC PERMIT: WRP-030130-2019
PIN: 0890 13 8608
Building Permit: RBPR-031269-2020
Property Description: SOUTHERN HILLS ESTATES, Lot 30, 1.07 Ac..

Dear Sir/Madam:

Enclosed is your approved pressure manifold installation plan and the "Pressure Manifold Sewage Disposal System Maintenance Information Sheet".

To complete your permit:

System Installation - A contractor **CERTIFIED** by the State of North Carolina to at least a **LEVEL II** certification, and **REGISTERED** in Wake County, must be used to install your system.

A copy of the "Pressure Manifold Sewage Disposal System Maintenance Information Sheet" and a copy of the "Wake County Well and Septic System Owner's Guide", which contain information essential to the long-term performance of this wastewater disposal system, must be forwarded to the owner or user of the system, if other than yourself.

ANY PROPOSED MODIFICATION TO THE APPROVED PLANS MUST BE COORDINATED WITH YOUR SYSTEM DESIGNER

Please call (919) 919-7439 or email at Ishwar.Devkota@wakegov.com if you have any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ishwar Devkota".

Ishwar.Devkota, P.E., REHS
Environmental Consultant

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

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***PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR
INTENDED USE CHANGED***

CONSTRUCTION AUTHORIZATION PERMIT

PERMIT # WRP-030130-2019 **APPLICATION DATE:** 12/12/2019 **BLDG. PERMIT#:** RBPR-031269-2020

PIN: 0890138608 **RECORDED:** Yes

TOWNSHIP: 02 - Bartons Creek **JURISDICTION:** Wake County **ZONING:** R-80W

APPLICANT: Raleigh Custom Homes
6736 Falls of Neuse RD
Raleigh, NC 27615

BUSINESS PHONE: (919) 847-2664
HOME PHONE:
MOBILE PHONE:

HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE **EXISTING USE:**

SITE ADDRESS: 1417 SKY VISTA WAY

SUBDIVISION: SOUTHERN HILLS ESTATES **LOT:** 30 **ACRES:** 1.07

DIRECTIONS: 540 to Creedmoor Rd North, Left on Shooting Club, Right on Estate Valley, Right on Sky Vista

Contractors shall install system on contour. See attached SITE PLAN for wastewater system design and well location. No underground utilities, water lines or sprinklers systems may be located in the original system, or permit areas. A septic tank filter with two risers for access is required. The wastewater system shall not be covered or placed into use until inspected by the Wake County Department of Environmental Services and Operations Permit issued. An Accepted Status System may be used in place of conventional system, if it can be placed in the permitted/authorized trench footprint (except reduction in line length and/or number as allowed for in approval) and the installation in accordance with the accepted system approval, without unauthorized product alteration. If permit required use of an Accepted Status System, substitution with another accepted status system may be made, as long as no changes are necessary in the location of each nitrifications line (including any increase in line length), trench depth or effluent distribution method. If changes are necessary, prior approval by this office is required before system installation. Maximum depth of line is calculated using the downhill side of the trench and includes slope correction.

CONSTRUCTION AUTHORIZATION PERMIT VALID FOR: Five Years

CONSTRUCTION AUTHORIZATION PERMIT: CA STATUS: Issued **BY:** Ishwar Devkota **DATE:** 02/26/2020

CA VALID FOR: Five Years **DESIGN FLOW:** 600 GALLONS **BASEMENT:** No **BASEMENT FIXTURES:**

SEPTIC TANK: 1500 GALLONS **SEPTIC TANK FILTER:** Yes
DOSING PUMP TANK: 1500 GALLONS **DOSING PUMP TANK FILTER:**
GREASE TRAP: **GREASE TRAP FILTER:**
RECIRCULATION PUMP TANK: **RECIRCULATION PUMP TANK FILTER:**

PROPOSED SYSTEM: 0.25 - 25% Reduction (Innovative or Accepted) **EXISTING SYSTEM:**
DRAINFIELD SQ. FT: 1,533 **AGGREGATE DEPTH:** 12 **MAX. TRENCH DEPTH:** 24 INCHES

DISTRIBUTION DEVICE: PM - Pressure Manifold

TRENCH #: 5 **TRENCH LENGTH:** **TRENCH WIDTH:** 36 INCHES **TOTAL TRENCH LENGTH:** 511 FEET
80,80,125,125,71 FEET

CENTER SPACING: 9 FEET

MINIMUM SOIL COVER: 6 INCHES

PRETREATMENT:
SUBFIELDS #:
PUMP TDH: 11.89 FEET

APPROVAL #:
PUMP DESIGN FLOW: 48.05
ZONE VALVE:

ASDMS REQUIRED: Yes
P.E. SIGN OFF/ASBUILT REQUIRED: No

LINE OF CREDIT REQUIRED: No

OPERATOR REQUIRED: Yes

TRIPARTY AGREEMENT REQUIRED: No

SPECIFIC CONSTRUCTION AUTHORIZATION REQUIREMENTS:

SEE APPROVED DESIGN (PLAN AND SPECIFICATIONS) FOR INSTALLATION INFORMATION FOR THIS 5 BEDROOM DWELLING. INITIAL SYSTEM IS AN UNEQUAL LINE LENGTH PRESSURE MANIFOLD SYSTEM PUMPING TO 5 DRAINLINES WITH 24" TRENCH BOTTOM. 1500 GALLON SEPTIC TANK AND 1500 GALLON PUMP TANKS ARE PROPOSED. PARTIAL FOUNDATION DRAIN ALLOWED. REPAIR SYSTEM IS TS-II PRETREATMENT AND SUBSURFACE DRIP SYSTEM WITH 6" TRENCH BOTTOM. ADEQUATE SPACE MUST BE RESERVED FOR INSTALLATION OF PRETREATMENT TANKAGE AND COMPONENTS FOR FUTURE REPAIR SYSTEM. WHEN INSTALLING SYSTEM, MAINTAIN ALL REQUIRED SETBACKS. MUST MAINTAIN REQUIRED EMERGENCY STORAGE IN PUMP TANK. DO NOT DISTURB OR REMOVE ANY SOIL IN INITIAL OR REPAIR AREAS. A NEMA 4X CONTROL PANEL WITH TWO BREAKERS, TWO POWER SUPPLIES, ELAPSED TIME METER AND CYCLE COUNTER ARE REQUIRED. THIS SYSTEM IS DESIGNED BY A CONSULTANT AND MUST BE INSTALLED PER THE DESIGN, INCLUDING THE USE OF THE MATERIALS SPECIFIED IN THE DESIGN. ANY DEVIATION MUST BE APPROVED BY THE CONSULTANT OR WAKE COUNTY ENVIRONMENTAL SERVICES PRIOR TO SYSTEM INSTALLATION.

DUE TO PRETREATMENT DEVICE REQUIREMENT FOR THE SYSTEM, WAKE COUNTY REGULATIONS (SECTION IV, E) REQUIRE THAT THE INITIAL SYSTEM BE INSPECTED AT LEAST ONCE EVERY 5 YEARS BY A CERTIFIED OPERATOR AND THE ALTERNATIVE SEWAGE DISPOSAL SYSTEM MAINTENANCE SCHEDULE MUST BE SIGNED, NOTARIZED AND RECORDED AT THE WAKE COUNTY REGISTER OF DEEDS OFFICE PRIOR TO ISSUANCE OF THE OPERATION PERMIT. ONCE REPAIR SYSTEM IS INSTALLED, THE REQUIREMENTS FOR OPERATION, MAINTENANCE, AND SAMPLING WILL BE IN EFFECT PER REPAIR SYSTEM OPERATION REQUIREMENT. PLEASE CALL ENVIRONMENTAL SERVICES IF ANY QUESTIONS OR PROBLEMS ARISE.

Issued By:



Date: 02/26/2020

***** CA PART A - E *****

HOMEOWNER GUIDE FOR UTILIZATION AND MAINTENANCE OF ON-SITE WASTEWATER DISPOSAL SYSTEMS

What is an On-site Wastewater Disposal System?

There are a number of different types of on-site wastewater disposal systems each designed for a specific set of site conditions. However, there are several system components that are common to most systems. These include the following:

1. A septic tank - a concrete tank that is designed to receive wastewater from the house and to provide a degree of pretreatment for the waste, chiefly through removal of some of the solids in the waste. Note that these solids accumulate over time and necessitate periodic pumping of the septic tank. Currently septic tanks are equipped with two access risers (normally constructed of concrete), which are designed to be at least 6 inches above the ground surface to prevent surface and shallow groundwater from entering the septic tank and to provide access for maintenance. **Care must be taken not to damage or cover these risers so that water inflow / infiltration can be prevented and the tank can be accessed for maintenance.**
2. In some installations, a pump tank - a concrete tank, very similar to the septic tank, which contains a pump along with the associated controls / componentry. The pump tank and pump is designed to receive effluent from the septic tank, and pump the effluent to a disposal field located at a higher elevation and/or to a pressurized distribution network in the disposal field. **The pump tank also has an access riser which must be protected in a similar manner to that indicated for the septic tank.** Servicing of the pump tank components often necessitates the assistance of a professional such as a septic tank installer or Certified Subsurface System Operator. The latter is required for operation and maintenance of certain types of systems.
3. A disposal field - a series of subsurface trenches and lines that are designed to distribute the effluent into the soil and provide for the ultimate treatment and disposal of the effluent. There are numerous variations on the design of the disposal field, related chiefly to the type of system chosen, site constraints, etc. Dependent on the type of disposal system, you may have to maintain a contract with a Certified Subsurface System Operator for operation and maintenance of your wastewater disposal system.

Utilization of Your Wastewater Disposal System

In order to obtain the maximum efficiency and life expectancy from your system, the following simple procedures must be adhered to:

1. **Practice water conservation.** This can include many practical considerations such as not leaving the water running while you brush your teeth, not overfilling the tub, limiting time in the shower, not replacing low flow fixtures with those of higher flows, over rinsing dishes (allow the dishwasher to do its job), immediate repair of any leaking fixtures, running washing machines and dishwashers only when full, etc.

NOTE: Washing machines generate significant volumes of wastewater. As a result, laundry activities should be spread over the week as opposed to accumulating all of laundry until the weekend.

2. **Do not utilize your wastewater disposal system as a trash can by dumping nondegradables down your drains or toilet.** These include cigarette butts, sanitary products, grease, plastics, disposable diapers, etc. Avoid use of garbage disposals. Do not retrofit garbage disposals unless the system is specifically permitted for their use. Also, do not dump harmful chemicals down the drain. These include petroleum products, paint, paint thinner, pesticides, antifreeze, etc.

Maintenance of Your Wastewater Disposal System

Every wastewater disposal system requires maintenance in order to function properly. The specific maintenance required is related to the type of system. The following are general considerations that apply to all systems.

1. **Protect your wastewater disposal system components including the tanks, access risers, disposal field and associated components.** Do not drive or park on any portion of the system. The area over the disposal field should be left undisturbed with the grass cover being maintained as you would your lawn. Location of trees and shrubs on or in close proximity to the disposal field is not recommended since roots may clog or damage your drain lines. Additionally, great care must be exercised when considering the addition of any structure(s) to the site. The location of any appurtenances cannot encroach on the installation or repair areas for your system. It is not recommended that irrigation systems be located in proximity to the disposal system since their construction can cause system damage and/or result in additional hydraulic load on the disposal field.
2. **Protect the system from excess surface and shallow groundwater.** The land surface on and around the wastewater disposal system should be landscaped to shed rainfall and runoff and prevent ponding. Be sure that foundation drains, runoff from roofs and drives, etc. are diverted away from the disposal system.
3. **Regularly have the septic tank / pump tank pumped and cleaned by a permitted septage hauler.** Although the necessary frequency of pumping varies with the household and system, most tanks need **pumping at a frequency of 3-5 years** and at any time solids occupy one-fourth to one-third of the septic tank liquid depth.

Note that all septic tanks being currently installed incorporate an effluent filter within the outlet compartment of the septic tank. This filter is to be cleaned anytime the septic tank is pumped. If plumbing becomes sluggish, this filter should be checked. If filter service is found to be necessary, the tank is to be pumped, the filter cleaned and the filter reinstalled.

4. **Be alert to warning signs that your system may not be functioning properly.**
These include sewage surfacing over the disposal system, sewage backups / slow draining in the house, lush growth over the disposal system, sewage odors, etc.
5. **Do not make or allow repairs to your system unless all necessary permits are obtained from Wake County Department of Environmental Services.**
6. **Commercial additives for septic tank systems** - It has generally not been demonstrated that these additives enhance the function of septic systems or reduce the need for tank pumping and other necessary maintenance.
7. **Special maintenance considerations** - As already alluded to, some of the more complex wastewater disposal systems require that you retain / maintain the services of a Certified Wastewater System Operator in order to comply with Laws and Rules and maintain a valid operation permit for your system. In Wake County this maintenance requirement should be recorded with Register of Deeds if applicable.

Where Do I Obtain Information and Assistance?

If you are purchasing a new home, you should request a copy of your wastewater system permit from the builder / seller along with information regarding any special maintenance requirements. You may also obtain information and assistance from the **Wake County Department of Environmental Services**, 336 Fayetteville Street Mall, Raleigh, NC, Telephone (919) 856-7400. The County also maintains an Internet web site at <http://www.wakegov.com/environment/Pages/default.aspx>. This site contains much useful information and a number of links.

BSM 7/18/18

ALTERNATIVE SEWAGE DISPOSAL SYSTEM MAINTENANCE SCHEDULE

To Be Recorded In The Register Of Deed’s Office In Wake County.

Owner/Grantor

Deedbook and Page

PIN No.

Date Installed

Subdivision Name

Lot No.

System Designed by

Installer

AN ALTERNATIVE OR NON-TRADITIONAL SEWAGE DISPOSAL SYSTEM HAS BEEN INSTALLED ON THIS PROPERTY. The design specifications and locations for alternative sewage disposal systems are specified or authorized in Regulations Governing Wastewater Treatment and Dispersal in Wake County effective November 21, 1988, amended effective October 27, 2011. As A Condition Of Issuance Of This Improvements/Operation Permit, The Property Owner Hereby Grants The Wake County Department Of Environmental Services A Right Of Access To The System During Regular Working Hours For Purposes Of Monitoring Compliance With State And Local Regulations, Recorded Maintenance Agreements And Certified Operator Compliance. This permit requires the use of **pre-treatment and a mode of subsurface wastewater dispersal for the repair system**, which will require a contract with a Certified Operator to perform maintenance on the system as described in the above referenced regulations. **Due to this requirement, the initial system must be inspected by a certified inspector or operator at a frequency of at least once every five years and a report submitted.** Experience and study have shown that pre-treatment systems require routine maintenance in order to function satisfactorily. In as much as each system must be individually designed and sited, special maintenance requirements may apply to a specific installation; however, the following maintenance schedule is applicable to all pre-treatment systems. For additional information, technical assistance or if a malfunction of the system occurs, contact the Wake County Department of Environmental Services, Telephone: (919) 856-7400.

<u>System Component</u>	<u>Frequency</u>	<u>Maintenance</u>
1. Septic Tank	6-12 months	Check riser condition (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation.
2. Pump/Dosing Tank	1-3 years	Pump septage.
	6-12 months	Check riser conditions (must be accessible from ground surface),excess in/exfiltration, entry of water at riser, and solids accumulation. Pump sludge accumulation as required and when septic tank is pumped. Check pump(s), controls, floats, electrical connections, and alarm for proper operation. Wash (hose) sludge accumulation from pump housing.
3. Supply lines	6-12 months	Check for settling, pipe exposure and leakage. Includes Manifold(s).
4. Drain Field(s)	1-4 weeks	Maintain vegetative cover (mow grass and remove weeds and brush).
	6-12 months	Check for settling, erosion and surfacing of effluent. Repair any broken lateral turn-ups and make certain they are accessible from ground surface and are filled with screw-on type caps. Check and reset pressure head and flush sludge from lateral lines (any discharge sludge and effluent is to be treated with a chlorine solution). Check site drainage, eliminate low or settled areas and divert surface or shallow groundwater movement around fields.
5. General	At all times	Prohibit vehicular or equipment traffic on ground absorption field. Prohibit tillage (gardening) or other soil disturbance over ground absorption field. Practice water conservation to reduce waste water load on system. Do no permit entry or grease and non-domestic waste to system. Use of a garbage disposal is <u>prohibited</u> . Addition of chemical or biological additives has <u>not</u> been demonstrated to be necessary to maintain proper system function. Prevention of root intervention on lateral lines and trenches may be necessary on certain sites. Surface and groundwater diversion structures must be maintained.
6. Pre-Treatment	6-12 months	Check for settling, erosion and surfacing of effluent. Perform all other inspections and sampling as required in the approval of the pre-treatment device.

Initial system must be inspected by a certified inspector or operator at a frequency of at least once every five years and a report submitted. A certified operator is required for the life of the system, **once repair system is installed.**

Signature of Property Owner

Date

NORTH CAROLINA _____ County. I, a Notary Public of the County and State aforesaid, certify that _____ Owner, Personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this ____ day of _____ 20____.

My commission expires _____ Notary Public _____

WWDS 1/29/16

PLOT PLAN FOR
RALEIGH CUSTOM HOMES

CA PART A(1)

1417 SKY VISTA WAY
LOT 30, SOUTHERN HILLS ESTATES
BARTON'S CREEK TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

DANIEL C. MARTIN &
ANGELA MARTIN
B.M. 1985, PG. 1365
D.B. 16246, PG. 1599



RBPR-031269-2020

LEGEND

- AIR CONDITIONER
- BACK FLOW PREVENTER
- CURB INLET
- CLEANOUT
- EXISTING CONCRETE MONUMENT
- EXISTING DRILL HOLE
- EXISTING IRON STAKE
- EXISTING IRON PIPE
- ELECTRIC METER
- EXISTING PK NAIL
- ELECTRIC STUB
- FLARED END SECTION
- FIRE HYDRANT
- FIBER OPTIC PEDESTAL
- GAS METER
- GUY
- INVERT
- IRON PIPE SET
- IRON ROD SET
- LIGHT POLE
- MANHOLE SANITARY SEWER
- MANHOLE STORM SEWER
- NEW DRILL HOLE
- PK NAIL SET
- OVERHEAD WIRES
- POINT NOT SET
- RAIL ROAD SPIKE
- TOP BACK OF CURB
- TELEPHONE PEDESTAL
- TRANSFORMER
- CABLE TV PEDESTAL
- UTILITY POLE
- WATER METER
- WATER VALVE
- YARD INLET
- FIELD MEASUREMENT

29

30
46,793 S.F.

31



S 21°22'44" W 302.41'

SETBACK LINES

20' PRIVATE DRAINAGE EASEMENT
B.M. 2018, PG 327-377

NEUSE REPARIAN BUFFER
NEUSE REPARIAN
BUFFER ZONE 2

N 76°09'32" W 123.51'

N 12°10'17" E 271.12'

S 77°49'43" E 115.24'

SKY VISTA WAY
45' PRIVATE R/W

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	76.74'	477.50'	9°12'30"	N 73°13'28" W	76.66'

IMPERVIOUS SURFACE TABLE

HOUSE.....5,660 S.F.
PORCH.....730 S.F.
WALK.....470 S.F.
DRIVE.....2,440 S.F.
TOTAL IMPERVIOUS...9,300 S.F.
ALLOWABLE IMPERVIOUS = 12,500 S.F.
PERCENTAGE IMPERVIOUS = 19.9%

SETBACK INFO

FRONT: 20'
REAR: 15'
SIDES: 10'
CORNER SIDE: 20'

REFERENCES:

B.M. 2018, PG. 372-377



SCALE: 1" = 50'

NOTES

- THIS SURVEY SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED BY A FULL AND ACCURATE TITLE SEARCH.
- THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS.

PLOT PLAN
PRELIMINARY PLAT- NOT FOR RECORDATION,
CONVEYANCE OR SALES

REV CODE: 1.FLIP, 2.PLAN, 3.ROTATE, 4.MOVE, 5.SS
6.SEVERAL OF ABOVE, 7.LAND FEATURE, 8. OTHER

REV5: JAN. 27, 2020(8)
REV4: JAN. 22, 2020(8)
REV3: JAN. 10, 2020(8)
REV2: JAN. 9, 2020(8)
REV1: JAN. 3, 2020(8)
DATE: JAN. 2, 2020
F.B. _____

RWK, PA
ENGINEERING ~ SURVEYING
CORPORATE LICENSE: C-1771
101 W. MAIN ST., SUITE 202
GARNER, NC 27529
PHONE (919) 779-4854
FAX (919) 779-4056

PLOT PLAN FOR
RALEIGH CUSTOM HOMES
1417 SKY VISTA WAY
LOT 30, SOUTHERN HILLS ESTATES
BARTON'S CREEK TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

CA PART A(2)

DANIEL C. MARTIN &
ANGELA MARTIN
B.M. 1985, PG. 1365
D.B. 16246, PG. 1599

LEGEND

- AIR CONDITIONER
- BACK FLOW PREVENTER
- CURB INLET
- CLEANOUT
- EXISTING CONCRETE MONUMENT
- EXISTING DRILL HOLE
- EXISTING IRON STAKE
- EXISTING IRON PIPE
- ELECTRIC METER
- EXISTING PK NAIL
- ELECTRIC STUB
- FLARED END SECTION
- FIRE HYDRANT
- FIBER OPTIC PEDESTAL
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- TELEPHONE PEDESTAL
- TRANSFORMER
- CABLE TV PEDESTAL
- UTILITY POLE
- WATER METER
- WATER VALVE
- YARD INLET
- FIELD MEASUREMENT

29

30

31

Pool
SEPTIC PURPOSES ONLY

POOL

PORCH

PROPOSED DWELLING
2 STORY BRICK
CRAWL FOUNDATION

WALK

DRIVE

SKY VISTA WAY
45' PRIVATE R/W

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	76.74'	477.50'	9°12'30"	N 73°13'28" W	76.66'

IMPERVIOUS SURFACE TABLE

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PORCH.....730 S.F.
WALK.....470 S.F.
DRIVE.....2,440 S.F.
TOTAL IMPERVIOUS...9,300 S.F.
ALLOWABLE IMPERVIOUS = 12,500 S.F.
PERCENTAGE IMPERVIOUS = 19.9%

SETBACK INFO

FRONT: 20'
REAR: 15'
SIDES: 10'
CORNER SIDE: 20'

REFERENCES:

B.M. 2018, PG. 372-377



SCALE: 1" = 50'

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PLOT PLAN
PRELIMINARY PLAT- NOT FOR RECORDATION,
CONVEYANCE OR SALES

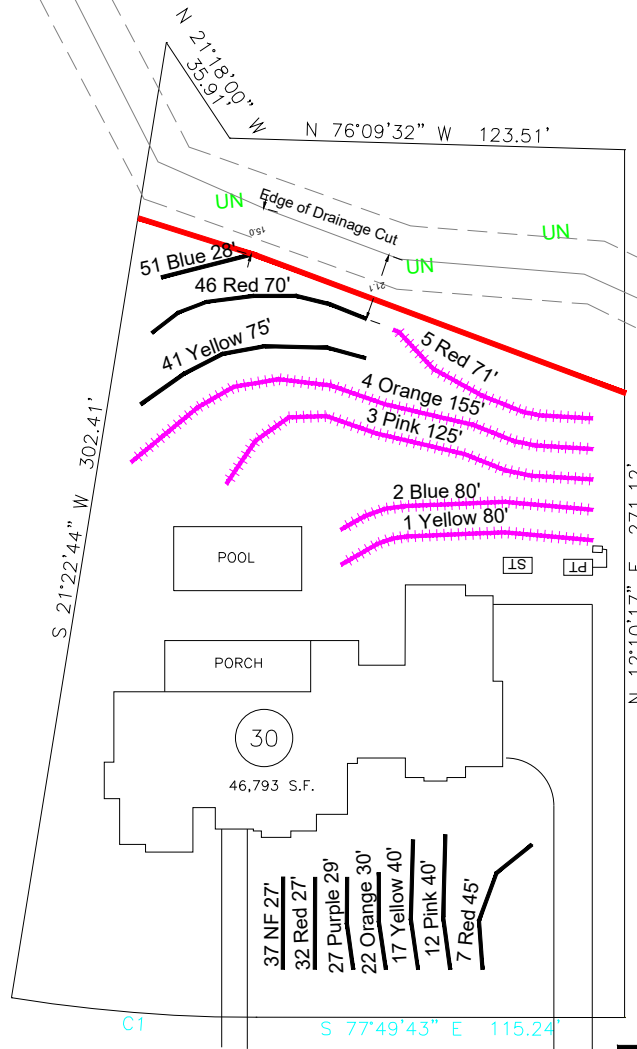
REV CODE: 1.FLIP, 2.PLAN, 3.ROTATE, 4.MOVE, 5.SS
6.SEVERAL OF ABOVE, 7.LAND FEATURE, 8. OTHER

REV5: JAN. 27, 2020(8)
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REV1: JAN. 3, 2020(8)
DATE: JAN. 2, 2020
F.B. _____

RWK, PA
ENGINEERING ~ SURVEYING
CORPORATE LICENSE: C-1771
101 W. MAIN ST., SUITE 202
GARNER, NC 27529
PHONE (919) 779-4854
FAX (919) 779-4056

CA PART B(1)

System: 
Repair: 



System: Pressure Manifold
 Lines: 1-5, (511')
 Accepted Status System
 0.3 Soil LTAR
 24" Trench Bottom

Repair: Subsurface Drip
 Lines: 6-51
 EZ-Treat Drip TS II
 0.15 Soil LTAR
 6" Trench Bottom

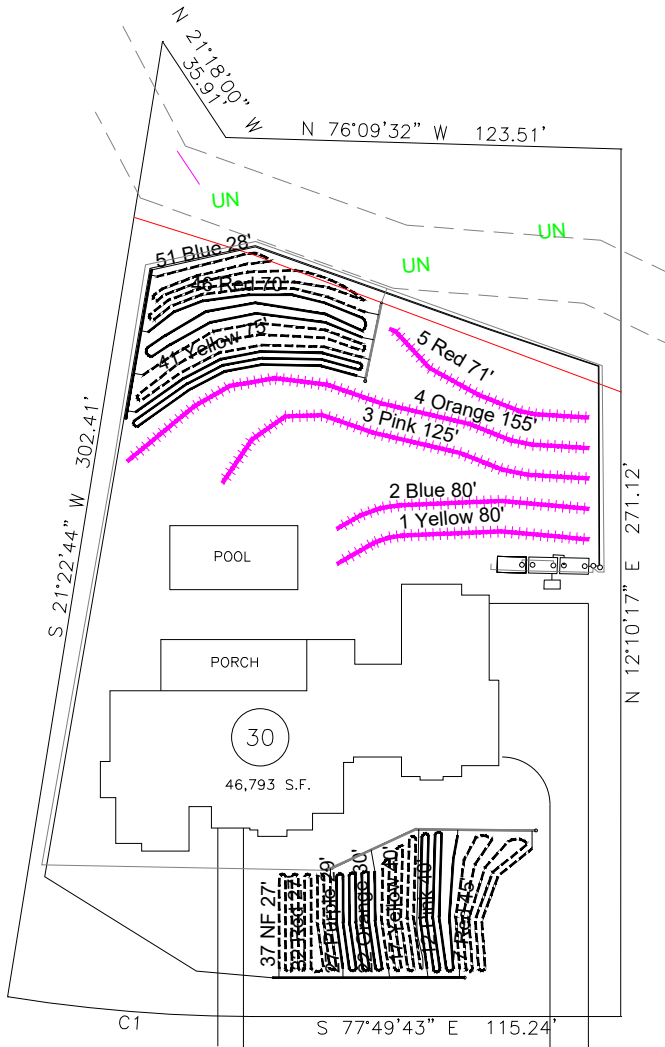


Central Carolina Soil Consulting, PLLC
 1900 South Main Street, Suite 110
 Wake Forest, North Carolina 27587
 Phone (919)569-6704 Fax (919)569-6703

SEPTIC SITE PLAN
 Lot 30 Southern Hills Subdivision
 Wake County, North Carolina

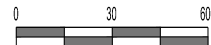
Job# : 3137
 Drawn By : AH
 Date : 12/11/2019
 Revision: 02/25/2020

CA PART B(2)



System: Pressure Manifold
Lines: 1-5, (511')
Accepted Status System
0.3 Soil LTAR
24" Trench Bottom

Repair: Subsurface Drip
Lines: 6-51
EZ-Treat Drip TS II
0.15 Soil LTAR
6" Trench Bottom



SCALE:
1" = 60 ft.

LINE SCHEDULE REPAIR				
LINE NUMBER	COLOR	FIELD ELEVATION	LENGTH	DESIGN LENGTH
7	RED	3.30	45	
			45	
			44	
			43	
			42	(1) 219
12	PINK	3.9	41	
			40	
			40	
			40	(2) 201
			40	
17	YELLOW	4.2	40	
			38	
			36	
			34	
			32	(3) 220
22	ORANGE	4.7	30	
			30	
			30	
			29	
			29	
27	PURPLE	5.2	29	
			29	(4) 206
			28	
			28	
			27	
32	RED	5.70	27	
			27	
			27	
			27	
			27	
37	NF	6.2	27	(5) 245
			75	
			75	
			75	(6) 225
			74	
41	YELLOW	14.4	75	
			73	(7) 222
			72	
			71	
			70	
46	RED	15.5	70	(8) 213
			70	
			70	
			45	
			38	
51	BLUE	15.9	28	(9) 251
			28	



Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703

**Septic System Layout
(REPAIR)**
Southern Hills Lot 30
Wake County, North Carolina

Job# : 3137
Drawn By : TMB
Date : 02/10/2020
Revision: 02/25/2020

CA PART C



Environmental Services

TEL 919 856 7400
FAX 919 856 7407

Water Quality Division
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602
www.wakegov.com/water/

Foundation Drain Request Form

Wastewater Permit: WRP-030130-2019 Building Permit: RBPR-031269-2020

Parcel PIN: 0890138608

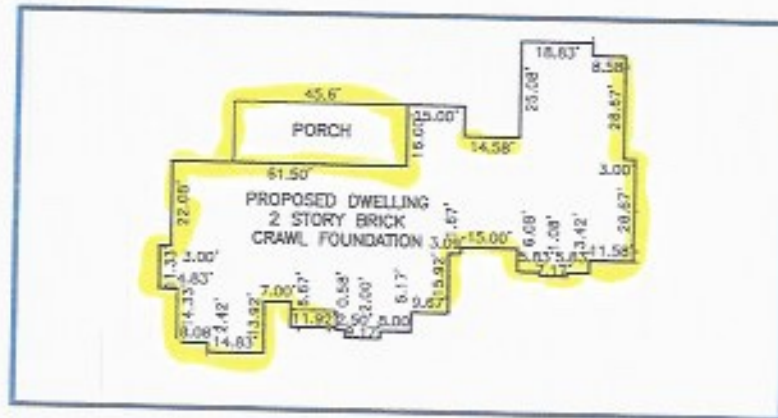
Project (Site) Address: 1417 Sky Vista Drive

PLEASE CIRCLE:

Foundation Drain? YES NO **PARTIAL (demonstrate below)**

If PARTIAL FOUNDATION DRAIN is circled, please demonstrate where the foundations drain will be located on the diagram below, (add decks, patios, etc. as needed)

Rear



Front

Applicant Signature: [Signature] Date: 2-13-20



Environmental Services

TEL 919 856 7400
FAX 919 856 7407

Water Quality Division

336 Fayetteville St. • P.O. Box 550 • Raleigh, NC

Innovative Product Owner Authorization of Use Certification

D# WRP-030130-2019

Building Permit # RBPR-031269-2020

Address: 1417 Sky Vista Way

PIN: 0890138608

I, TIMOTHY W. THOMPSON hereby request the innovative wastewater
Print Owner Name

drip system marked below to be used in my wastewater treatment and dispersal system for my property located at the above address and PIN number, and permitted under the above Wake County Wastewater System Permit number. If Advanced Treatment is Required, the level of treatment is also marked below, and a separate innovative authorization letter will be filled out, if required, for that product.

[Signature]
Owner Signature

2-13-20
Date

Generic Name

Proprietary Name

Innovative Approval

- ☐ Perc-Rite Drip
- ☐ Perc-Rite Drip
- ☐ Delta Drip
- ☒ E-Z Drip
- ☐ Geoflow Drip

- American Perc-Rite Subsurface Drip System, Anaerobic
- American Perc-Rite Subsurface Drip System, Aerobic
- Delta Subsurface Drip System
- E-Z Drip Subsurface Wastewater Drip System
- Geoflow's Subsurface Drip System

- IWWS-1993-1-R7A
- IWWS-93-1-R6B
- IWWS-2001-1
- IWWS-2007-1-R2
- IWWS-2000-2R

Treatment Level: ☐ Anaerobic
☐ NSF40
☐ TS-I
☒ TS-II



Environmental Services

TEL 919 856 7400
FAX 919 856 7407

Water Quality Division

336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602

Innovative Product Owner Authorization of Use Certification

D# WRP-030130-2019

Building Permit # RBPR-031269-2020

Address: 1417 Sky Vista Way

PIN: 0890138608

I, TIMOTHY W. THOMPSON hereby request the innovative wastewater
Print Owner Name

advanced treatment unit marked below to be used in my wastewater treatment and dispersal system for my property located at the above address and PIN number, and permitted under the above Wake County Wastewater System Permit number. The level of treatment is also marked below. Any additional Innovative Products needed for this project will have their own Authorization of use filled out independently.

[Signature]
Owner Signature

2-13-20
Date

Generic Name

Proprietary Name

Innovative Approval

☐ Anua	Puraflo Peat Biofilter System
☐ Bioclere	Bioclere Modified trickling Filter System
☐ E-Z Treat 1200	E-Z Treat Model 1200 Pretreatment System
☒ E-Z Treat 600	E-Z Treat Model 600 Pretreatment System
☐ Norweco	Norweco Singulair ATU/Sand Filter
☐ Bio-Kinetic	Norweco Bio-Kinetic System
☐ AdvanTex RT	AdvanTex AX-RT Treatment System (Models AX20-RT and AX25-RT)
☐ AdvanTex	Advantex Treatment Systems (AX20 and AX100)
☐ Ecoflo	Ecoflo Peat Biofilter System
☐ Sand Filter	Pressure Dosed Sand Filter Pretreatment System

IWWS-98-1-R3
IWWS-2002-1-R1
IWWS-2014-R3
IWWS-2015-03-R2
IWWS-99-3
IWWS-2000-1
IWWS-2015-01-R1

IWWS-2004-3-R4

IWWS-2000-3-R4
IWWS-97-1

Treatment Level: ☐ NSF40
☐ TS-I
☒ TS-II
☐ Reuse



Department of Environmental Services
Wake County

CA PART E

Approved by

A handwritten signature in black ink, appearing to read "Shwara Derré".

Date : 02282020

Review of this document has been made only for conformance with the design concept of the project and approval shall not relieve the designer and/or contractor from responsibility for any errors therein or for furnishing the materials, and equipment of proper dimension, size, quantity, quality and all performance characteristic to meet the requirements and intent of the contract documents.

Pressure Manifold Septic System Design

for

Southern Hills S/D, Lot 30
Wake County, North Carolina

Designed by:

Aaron Holder
Central Carolina Soil Consulting, PLLC
Wake Forest, North Carolina

1/31/2020

Southern Hills S/D, Lot 30
Table of Contents

Cover Sheet -----	1
Table of Contents -----	2
Contact Information -----	3
Specifications (system) -----	4
Tap Charts (System and Repair) -----	5
Site Plan (System and Repair)-----	6
Control Panel Specifications -----	7-8
Pump Specifications -----	9-10
Effluent Filter Specifications -----	11-12
Brantley 1,500 Gallon ST 322 Diagram-----	13
Brantley 1,500 Gallon PT 293 Diagram-----	14
Septic and Pump Tank Details-----	15
Pressure Manifold and Trench Details-----	16
Supply Line Hydraulic Profile -----	17
Drip Repair Specs-----	18-21

Southern Hills S/D, Lot 30
Contact Information

Client: Raleigh Custom Homes
Attn:
Street Address:

Phone:
Fax:

Designer: Central Carolina Soil Consulting, PLLC
Attn: Jason Hall
Designed By: Aaron Holder
Street Address: 1900 Main Street Suite 110
Wake Forest, NC 27587
Office Phone: 919-569-6704
Cell Phone: 919-537-1139
Fax: 919-569-5703
Email: Aholder@centralcarolinasoil.com

Southern Hills S/D, Lot 30
Layout/Design Specifications

Facility Type:	Single Family Home
# of Bedrooms:	5
Daily Flow:	600 gal/day
L.T.A.R.:	0.3 gal/day/sq.ft
Trench Depth:	per WCDES in
Trench Width:	36 in
Stone Depth:	EZ-FLOW in
Manifold Length:	54 in
Manifold Diameter:	4 in sch 80pvc
Supply Line Length:	12 ft
Supply Line Diameter:	2 in sch 40pvc
Supply Line Volume:	2.09 gallons
Friction Loss + Fitting Loss:	4.09 ft(supply line length + 70' for fittings in pump tank)
Design Head:	2 ft
Elevation Head:	5.80 ft
Total Head:	11.89 ft
Dose Volume:	249.11 gals
% of Pipe Vol.	.75
Drawdown:	8.13 in @ 30.65 gal/in
Pump Run Time:	5.18 Mins
Control Panel:	SJE Rhombus Model112 control panel (or approved equivalent)
Pump:	Zoeller M137 Flow-Mate (or approved equivalent)
Septic Tank Effluent Filter:	Zoeller 170-0144 residential effluent filter (or approved equivalent)
Septic Tank:	Brantley 1,500 Gallon ST 322
Pump Tank:	Brantley 1,500 Gallon PT 293

Southern Hills S/D Lot 30 TAP CHART

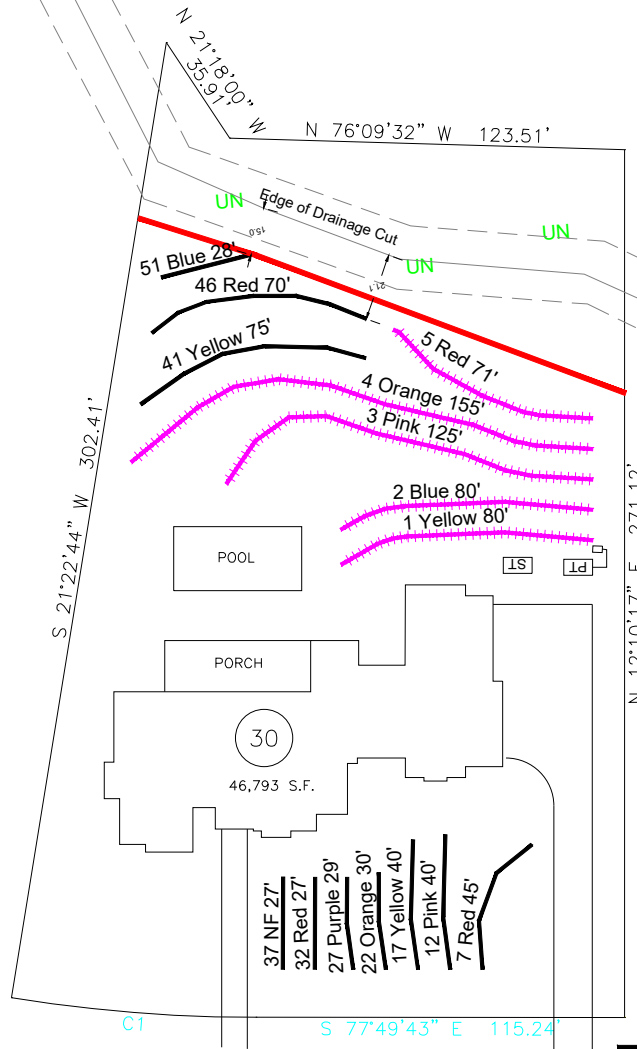
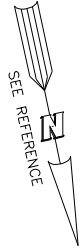
Bench Mark		is = 100.00		Location of BM		Elevation Head			5.80
Pump tank elev.		2.8	97.20	Pump elev.		91.80	Manifold elev.		97.60
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR
1	Yellow	3.40	96.60	80	1/2in SCH 40	7.11	88.78	240	0.3699
2	Blue	4.20	95.80	80	1/2in SCH 40	7.11	88.78	240	0.3699
3	Pink	5.60	94.40	125	3/4in SCH 40	12.5	156.09	375	0.4162
4	Orange	6.90	93.10	155	2 1/2 SCH 40	14.22	177.57	465	0.3819
5	Red	8.50	91.50	71	1/2in SCH 40	7.11	88.78	213	0.4168
		total	feet =	511	gal/min =	48.05	<u>LTAR =</u>		0.3000
							<u>LTAR + %5</u>		0.3150
% of Dose Vol.		75	<u>Des. Flow</u>		600	(ltar W/ INOV)		0.4000	
Dose Volume		249.11	Pump Run=		12.49	(ltar W/ INOV + 5%)		0.4200	
Dose Pump Time		5.18	Tank Gal/IN		30.65				
Drawdown in Inches		8.13							

Southern Hills S/D Lot 30 Repair TAP CHART

Bench Mark		is = 100.00		Location of BM		Elevation Head				-93.60
Pump tank elev.		100.00		Pump elev.		94.60		Manifold elev.		1.00
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR	
		total	feet =	0	gal/min =	0	<u>LTAR =</u>		0.3000	
								<u>LTAR + %5</u>	0.3150	
% of Dose Vol.	75	<u>Des. Flow</u>		360			(ltar W/ INOV)		0.4000	
Dose Volume	0.00	Pump Run=		#DIV/0!			(ltar W/ INOV + 5%)		0.4200	
Dose Pump Time	#DIV/0!	Tank Gal/IN		19.65						
Drawdown in Inches	0.00									

System: 

Repair: 



System: Pressure Manifold
 Lines: 1-5, (511')
 Accepted Status System
 0.3 Soil LTAR
 24" Trench Bottom

Repair: Subsurface Drip
 Lines: 6-51
 EZ-Treat Drip TS II
 0.15 Soil LTAR
 6" Trench Bottom



Central Carolina Soil Consulting, PLLC
 1900 South Main Street, Suite 110
 Wake Forest, North Carolina 27587
 Phone (919)569-6704 Fax (919)569-6703

SEPTIC SITE PLAN
 Lot 30 Southern Hills Subdivision
 Wake County, North Carolina

Job# : 3137
 Drawn By : AH
 Date : 12/11/2019
 Revision: 02/25/2020

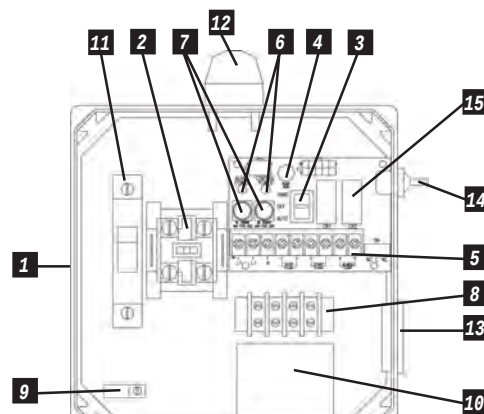
MODEL 112 Control Panel

Single phase, simplex motor contactor control.

The Model 112 control panel provides a reliable means of controlling one 120, 208, or 240 VAC single phase pump in pump chambers, sump pump basins, irrigation systems and lift stations. Two control switches activate a magnetic motor contactor to turn the pump on and off. If an alarm condition occurs, an additional alarm switch activates the audio/visual alarm system.

PANEL COMPONENTS

1. **Enclosure** measures 8 x 8 x 4 inches (20.32 X 20.32 X 10.16 cm). Choice of NEMA 1 (steel for indoor use), or NEMA 4X (ultraviolet stabilized thermoplastic with removable flanges for outdoor or indoor use).
* Options selected may increase enclosure size and change component layout.
2. **Magnetic Motor Contactor** controls pump by switching electrical lines.
3. **HOA Switch** for manual pump control (mounted on circuit board).
4. **Green Pump Run Indicator Light** (mounted on circuit board).
5. **Float Switch Terminal Block** (mounted on circuit board).
6. **Alarm and Control Fuses** (mounted on circuit board).
7. **Alarm and Control Power Indicators** (mounted on circuit board).
8. **Pump Input Power and Pump Connection Terminal Block**
9. **Ground Lug**
10. **Terminal Block Installation Label**
11. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.



Model Shown 1121W914X

STANDARD ALARM PACKAGE

12. **Red Alarm Beacon** provides 360° visual check of alarm condition.
Note: NEMA 1 style utilizes a door mounted indicator in lieu of a beacon.
13. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating).
Note: NEMA 1 style utilizes an internally mounted buzzer in lieu of horn.
14. **Exterior Alarm Test/Normal/Silence Switch** allows horn and light to be tested and horn to be silenced in an alarm condition. Alarm automatically resets once alarm condition has been cleared.
15. **Horn Silence Relay** (mounted on circuit board).

NOTE: other options available.

FEATURES

- Entire control system (panel and switches) is UL Listed to meet and/or exceed industry safety standards
- Dual safety certification for the United States and Canada
- Standard package includes three 20' Sensor Float® control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty



SJE
Rhombus
CONTROLS

PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com

SEE BACKSIDE FOR COMPLETE LISTING OF AVAILABLE OPTIONS.

112**1****W****1****2****4****H****3A, 8A, 8C, 15A****MODEL 112****ALARMPACKAGE**

0 = select options or no alarm package

1 = alarm package (includes test/normal/silence switch, fuse, red light, horn & float)

ENCLOSURE RATING

I = Indoor, NEMA 1 (metal)

W = Weatherproof, NEMA 4X (engineered thermoplastic)

STARTING DEVICE

1 = magnetic motor contactor 120/208/240V

9 = magnetic motor contactor 120V only

PUMP FULL LOAD AMPS

0 = 0-7 FLA

1 = 7-15 FLA

2 = 15-20 FLA

3 = 20-30 FLA

PUMP DISCONNECTS

0 = no pump disconnect

1 = pull-out with safety deadfront in a 10"x8" enclosure

4 = circuit breaker 120V (select STARTING DEVICE option 9 above)

120/208/240V (select STARTING DEVICE option 1 above)

FLOAT SWITCH APPLICATION

H or L = pump down or pump up

X = no floats

WITH alarm package

WITHOUT alarm package

OPTIONS *Listed below*

ENCLOSURE UPSIZE - If you selected 3 or more of the ★ options, or one ★★ option, a one-time enclosure upsize fee would apply.

If additional features are required, call the factory for a quote on either a SJE-Rhombus Pro-Line or Engineered Custom control panel.**CODE DESCRIPTION**

- ☐ 1A Red beacon only / no audio
(must select 1E if floats included)
- ☐ 1C Horn only / no visual
(must select 1E if floats included)
- ☐ 1E Alarm float
- ☒ 3A Alarm flasher
- ☐ ★ 3B Manual alarm reset
- ☐ ★ 4A Low level cutout
(select option 4D if floats included)
- ☐ ★ 4B Red low-level indicator & alarm
(must select 4A also)
- ☐ 4D Low-level float
- ☐ ★ 5A Thermal cutout/heat sensor auto
reset (for pumps w/thermal switch leads)
- ☐ ★★ 5E Seal failure circuit & red indicator (2 wire)
- ☐ 6A Auxiliary alarm contact, form C type
- ☒ ★ 8A Elapsed time meter
- ☒ ★ 8C Event (cycle) counter
- ☐ ★★ 9_A Pump overload
specify amperage after number 9 followed by letter "A".
Example: 912A = 12 amp pump.
- ★★ ☐ 0-25 FLA
- ★★ ☐ 25-30 FLA
- ☐ 10E Lockable latch - NEMA 4X
- ☐ 10E Lockable latch - NEMA 1
- ☐ ★ 10F Lightning arrester
- ☐ ★ 10K Anti-condensation heater

CODE DESCRIPTION

- ☐ 11C NEMA 1 alarm panel *must select option 6A*
- ☐ 11D NEMA 4X alarm panel *must select option 6A*
- ☐ ★★ 14B Main disconnect (rotary style, mounted through door)
non-fused
- ★★ ☐ 0-20 FLA (total of both pumps)
- ★★ ☐ 20-30 FLA (total of both pumps)
- ☒ 15A Control / alarm circuit breaker
Does not include the circuit board as in standard.
- ☐ 16A 10' cord in lieu of 20' (per float)
- ☐ 16B 15' cord in lieu of 20' (per float)
- ☐ 16C 30' cord in lieu of 20' (per float)
- ☐ 16D 40' cord in lieu of 20' (per float)
- ☐ 17A SJE SignalMaster® / mounting strap ● (per float)
- ☐ 17B SJE SignalMaster® / externally weighted ● (per float)
- ☐ 17C Sensor Float® / internally weighted ▲ (per float)
- ☐ 17D Sensor Float® / externally weighted ▲ (per float)
- ☐ 17E Sensor Float® Mini / pipe clamp ▲ (per float)
- ☐ 17F Sensor Float® Mini / externally weighted ▲ (per float)
- ☐ 19T TOA (Test/Off/Automatic) switch and pump run light through
door mounted
- ☐ 19U HOA (Hand/Off/Automatic) switch and pump run light through
door mounted
- ☐ 19X Door mounted pump run indicator
- ☐ 21A SJE PumpMaster® in lieu of on/off switches ●
- ☐ 21B SJE PumpMaster® Plus in lieu of on/off switches ●
- ☐ 21C Super Single® in lieu of on/off switches ▲
- ☐ 21D Double Float® in lieu of on/off switches ▲

● Mechanically-activated ▲ Mercury-activated

SAMPLE**MODEL****112****1****W****9****1****4****H****3A 8A**

Alarm Package

Enclosure Rating

Starting Device

Pump Full Load Amps

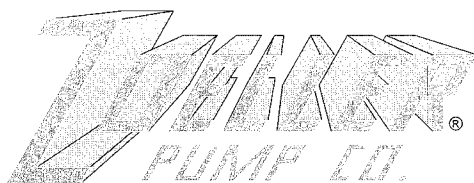
Pump Disconnect

Float Switch Application

Options: Flasher, Elapsed Time Meter

"QUALITY PUMPS SINCE 1939"

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



SECTION: 2.20.040

FM0411

0602

Supersedes

0901

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COMPARE THESE FEATURES

- Castings - Model 137, all cast iron ASTM class 25, 25000# tensile strength. Model 139, all bronze.
- Non-Clogging vortex impeller design.
- Corrosion resistant powder coated epoxy finish.
- Float operated 2-pole mechanical switch. (Automatic units only)
- Durable cast construction. Cast switch case, motor and pump housing, base and impeller. No sheet metal parts to rust or corrode.
- Motor - 60 Hz, 1725 RPM, oil filled, hermetically sealed, automatic reset thermal overload protected (1 Ph only only).
- Upper and lower sleeve bearings running in bath of oil.
- Carbon and ceramic shaft seal.
- Stainless steel screws, bolts, handle, guard, and arm and seal assembly.
- UL-listed 3-wire neoprene cord and plug.
10 ft. standard for automatic.
15 ft. standard for nonautomatic.
- Maximum temperature for effluent or dewatering—130°F - 54°C (Extra Duty 140° F - 60° C).
- Passes 5/8 inch solids (sphere).
- No screens to clog.
- 1½" NPT Discharge. (1½" x 2" PVC adapter fitting included with BN and BE models).
- On point—10", Off point—2¾".

Note: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.

AVAILABLE SYSTEMS:
SIMPLEX AND DUPLEX SYSTEMS
PACKAGED SYSTEMS
VARIABLE LEVEL CONTROL SYSTEMS
DESIGNED FOR HEAVY DUTY EFFLUENT APPLICATIONS



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Manufacturers of . . .

"QUALITY PUMPS SINCE 1939"



137 Cast Iron Series 139 Bronze Series



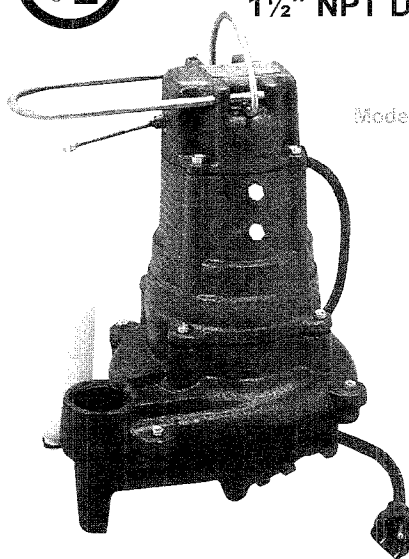
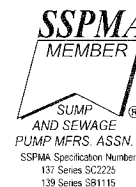
(For Pump Prefix Identification see News & Views 0052)

"FLOW-MATE"

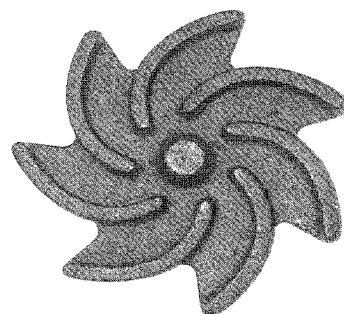
FOR SEPTIC TANK - LOW PRESSURE PIPE (LPP)
AND ENHANCED FLOW STEP SYSTEMS

EFFLUENT

OR DEWATERING PUMPS
SUBMERSIBLE
1½" NPT DISCHARGE



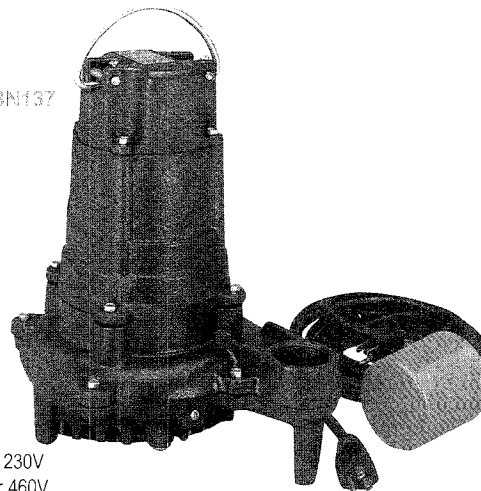
Model M137



Vortex Type Impeller



Model BN137

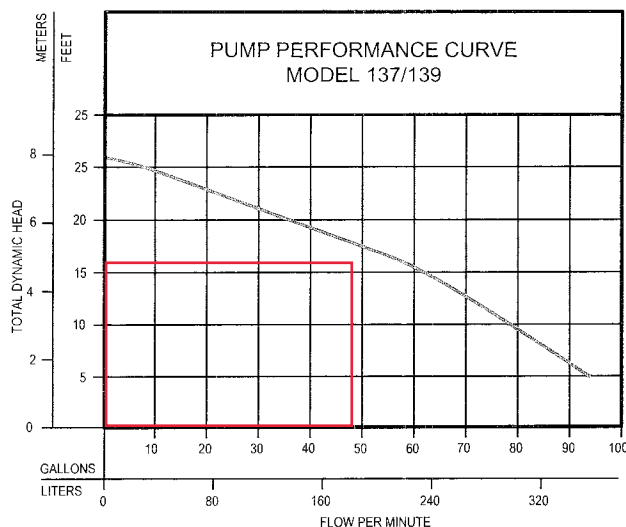


MODELS AVAILABLE

- Automatic
- Nonautomatic
- ½ H.P., 1 Ph., 115V, 200-208V or 230V
- ½ H.P., 3 Ph., 200-208V, 230V, or 460V

* NOTE: See back page for U.L. & CSA Listings.

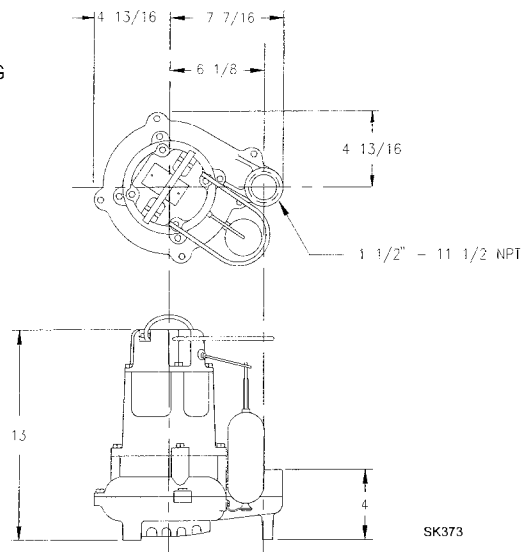
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TOTAL DYNAMIC HEAD/FLOW
PER MINUTE
EFFLUENT AND DEWATERING

MODEL		137/139	
Feet	Meters	Gal.	Liters
5	1.5	93	352
10	3.1	79	299
15	4.6	64	242
20	6.1	36	136
25	7.6	8	30
Shut-off Head:		26 ft. (8.0m)	

009921



CONSULT FACTORY FOR SPECIAL APPLICATIONS

- Three phase pumps are available in 200/208V, 230V or 460V.
- Electrical alternators, for duplex systems, are available and supplied with an alarm.
- Mechanical alternators, for duplex systems, are available with or without alarm switches.
- Simplex Panels are available for 3 phase pumps.
- Control alarm systems are available for 1 phase pumps.

- Variable level control switches are available for controlling single and three phase systems.
- Double piggyback variable level float switches are available for variable level long cycle controls.
- Over 130°F. (54°C.) special quotation required.
- Refer to FM0806 for 200° F. applications.

137 Series - 47 lbs. 139 Series - 51 lbs.

SELECTION GUIDE

Single Seal	Control Selection					Listings	
Model	Volts-Ph	Mode	Amps	Simplex	Duplex	CSA	UL
M137/139	115	1	Auto	10.7	1	Y	Y
N137/139	115	1	Non	10.7	2	3 or 5 & 6	Y
** BN137	115	1	Auto	10.7	**	Y	Y
D137/139	230	1	Auto	5.8	1	Y	Y
E137/139	230	1	Non	5.8	2	3 or 5 & 6	Y
* H137/139	200-208	1	Auto	6.2	1	Y	N
* I137/139	200-208	1	Non	6.2	2	3 or 5 & 6	Y
* J137/139	200-208	3	Non	2.6	4	3&4 or 5&6	Y
* F137/139	230	3	Non	2.6	4	3&4 or 5&6	Y
* G137	460	3	Non	1.4	4	3&4 or 5&6	N
* G139	460	3	Non	1.4	4	3&4 or 5&6	N

* No molded plug

**Single piggyback switch included.

Pumps must be operated in upright position.

Three phase units require a control switch to operate an external magnetic contactor.

For information on additional Zoeller products refer to catalog on Piggyback Variable Level Float Switches, FM0477; Electrical Alternator, FM0486; Mechanical Alternator, FM0495; Alarm Package, FM0732; and Sump/Sewage Basins, FM0487.

1. Integral float operated 2-pole mechanical switch, no external control required.
2. Single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. Mechanical alternator M-Pak 10-0072 or 10-0075. Refer to FM0495
4. Simplex three phase control panel. Refer to FM1228.
5. See FM0712 for correct model of Electrical Alternator.
6. Variable level control switch 10-0225 used as a control activator, specify duplex (3) or (4) float system.

CAUTION

All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electric Code (NEC) and the Occupational Safety and Health Act (OSHA).

RESERVE POWERED DESIGN

For unusual conditions a reserve safety factor is engineered into the design of every Zoeller pump.



<http://www.zoeller.com>

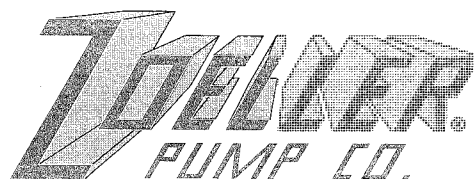
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"QUALITY PUMPS SINCE 1939"

QUALITY PUMPS SINCE 1939™



SECTION: 3.20.065

FM1775

1101

Supersedes

0501

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

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ZOELLER ON-SITE WASTEWATER PRODUCTS

INTRODUCING ZOELLER SEPTIC SYSTEM FILTERS

Zoeller "WW" Residential Effluent Filter P/N 170-0078



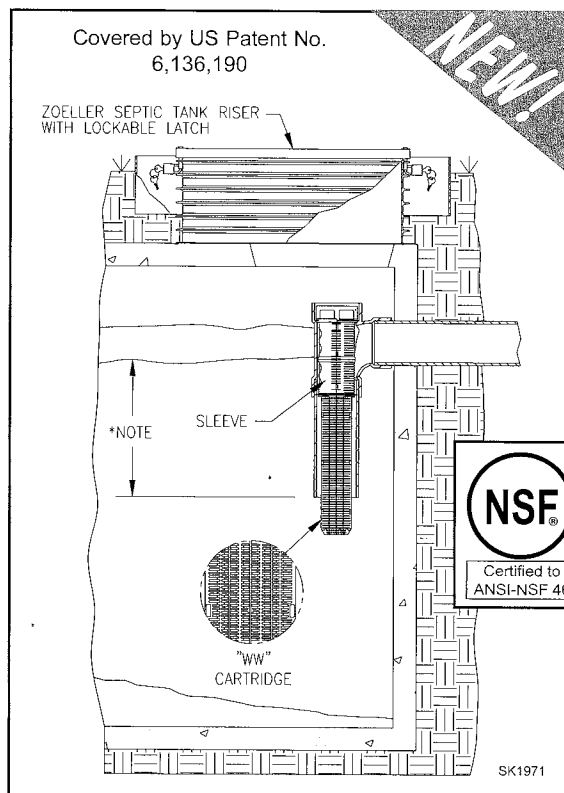
The Zoeller "WW" residential filter gives your septic system protection like no other. Zoeller Company's patented design keeps your lateral fields safe with twice the filtration area of most residential filters. All of the filtration area is submerged, making the filter 100% effective. The best feature of the WW filter is that the sleeve section of the filter remains in the outlet tee when the main filter is removed for servicing. This will guarantee no solids larger than 1/16" reach the lateral fields during servicing. The Zoeller "WW" filter is ultimate protection.

Improve the performance of your septic system: The number one reason that septic systems fail is because the lateral field becomes clogged. By preventing solids larger than 1/16" from exiting to your drain field, the lifetime of your system can be greatly increased.

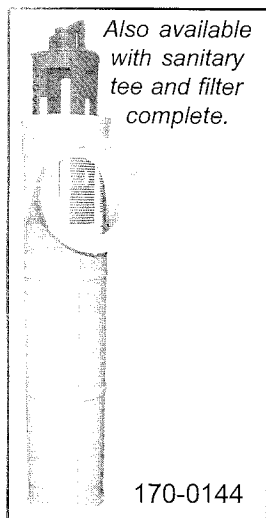
Allows only the clearest effluent to leave the tank: Located in the sanitary tee, this filter extends beneath the scum layer, above the sludge layer, and withdraws effluent from the clear water zone of the tank.

Lowers maintenance costs: The filter must be serviced on a periodic basis to maintain peak performance. Under normal circumstances, the filter requires servicing when the septic tank is pumped. However, site specific circumstances may require more frequent service. A Zoeller Riser & Lid will make septic tank and filter maintenance an easy task.

Allows any responsible management entity to monitor the condition of the tank: During routine maintenance, the tank should be inspected to be sure unnecessary particulate is not getting into your tank (i.e. fruit peelings, cigarette filters, feminine hygiene materials, etc.). Check your local plumbing codes to determine how often your tank should be pumped. If sludge buildup becomes apparent on the bottom of your tank, then a more frequent pumping interval is suggested.



*NOTE: State and local plumbing codes may require a specific liquid penetration. For example, 25% - 45% into the liquid depth or 9" off the tank bottom.



Distributed by:



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P/N 013244

Zoeller Residential Septic Tank Effluent Filter Specifications

For: Single family homes.

Filter: 122 Linear Feet of 1/16" filtration.

Flow Rate: 1000 gpd.

Materials: All materials are noncorrosive in the septic tank environment. Sleeve is PVC, primary filter is polypropylene, and filter connection element is neoprene.

How to install or retrofit: The Zoeller Septic System Filter fits inside any 4" sanitary tee. Slide the filter cartridge into the filter sleeve. Lock the cartridge and sleeve together by holding the sleeve stationary and rotating the cartridge clockwise. Slide the assembled cartridge and sleeve into the sanitary tee at the tank's outlet. Ensure the sleeve latch is pointing toward the outlet of the septic tank before filter placement into the tee. The drain field is now protected from solids greater than 1/16".

Adding an extension handle: Zoeller's effluent filter can be easily retrofitted with an extension handle. Attach a 1/2" PVC pipe to the top of the filter with properly installed stainless steel screws. Cut off to appropriate length below the lid. A 1/2" PVC Tee can be added to the pipe for added leverage and control.

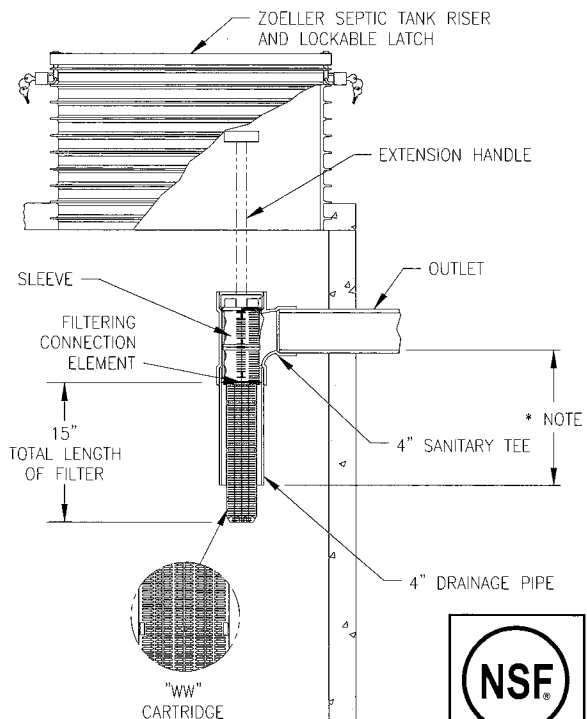
How to maintain: The filter cartridge can be maintained by rotating the cartridge counterclockwise and removing for cleaning. The sleeve should remain in the sanitary tee while cleaning the cartridge. To clean the cartridge, hold cartridge over septic tank opening and thoroughly rinse with hose until clean, washing filtered trash back into septic tank. After cleaning the cartridge, it is imperative that the sleeve be cleaned inside and out, by reinserting the cartridge; turning it clockwise in the sleeve and removing the sleeve from the sanitary tee. The Zoeller filter should be cleaned each time the septic tank is pumped or when the need is indicated by slow flows from the house. More frequent cleanings will not hurt the filter and could even improve the performance of your septic tank. For installations that exceed the design flow rate of the filter, more frequent cleanings may be required or manifold more than one sanitary tee to accept more than one filter.

Filter shooting, repair, and replacement: Follow the install and maintenance instructions above. For replacement components, call 1-800-928-PUMP.

Lifetime Warranty: Every Zoeller filter is guaranteed to be free from defects in materials and workmanship for the lifetime of the homeowner/purchaser. Free repair or replacement, excluding labor, will be made on return of the filter prepaid to the factory. This warranty is limited to product proven to be free from abuse or improper installation.

***NOTE:** State and local plumbing codes may require a specific liquid penetration. For example, 25% - 45% into the liquid depth or 9" off the tank bottom.

Covered by US Patent No.
6,136,190



SK1972



ALL ZOELLER ON-SITE WASTEWATER PRODUCTS MUST BE INSTALLED IN ACCORDANCE WITH LOCAL AND/OR STATE PLUMBING AND/OR HEALTH DEPARTMENT CODES.



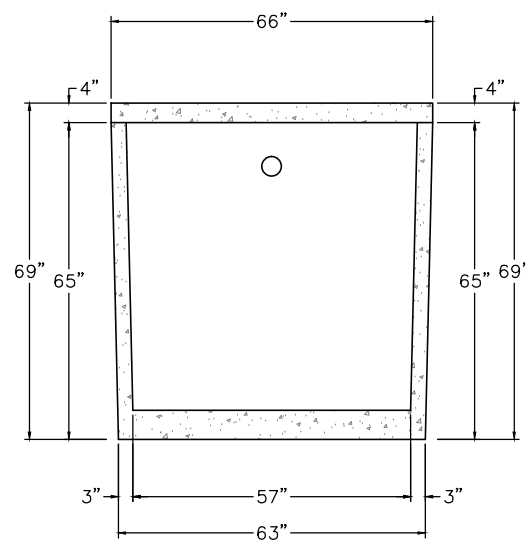
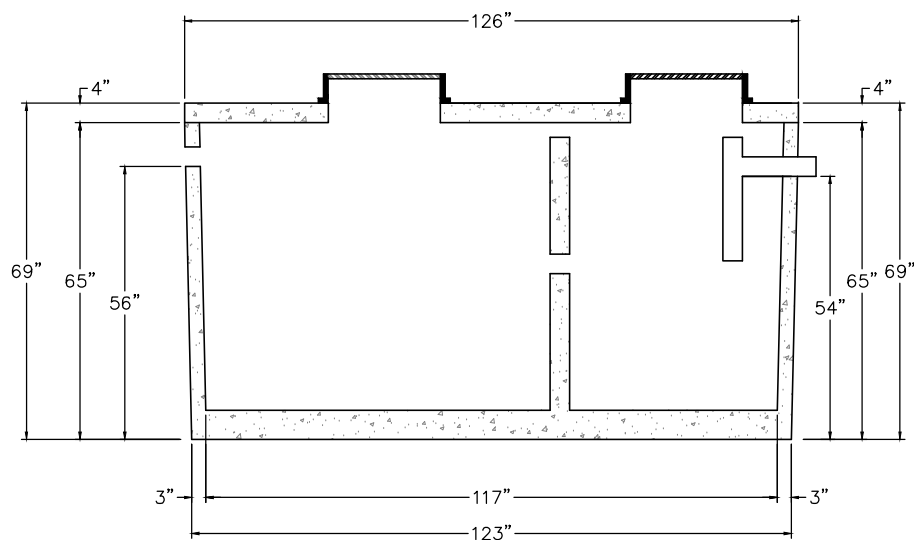
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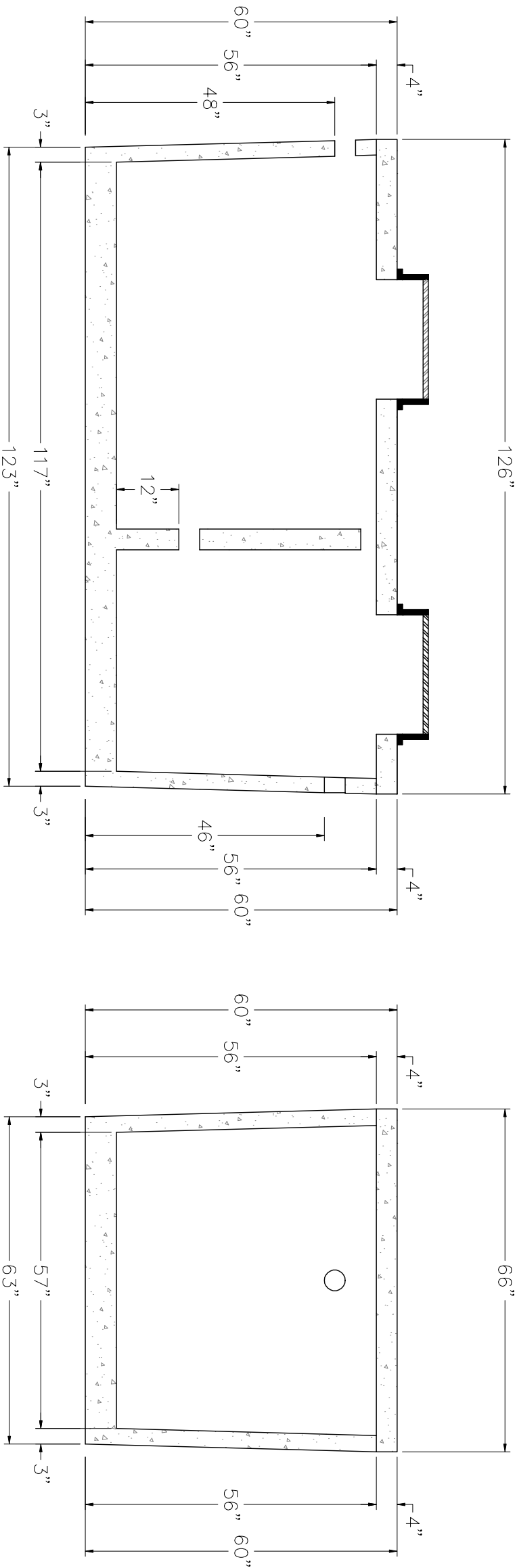
"QUALITY PUMPS SINCE 1939"



1,500 ST-322
NTS

NON TRAFFIC BEARING

DAVID BRANTLEY & SONS 37 Pine Ridge Rd. Zebulon, NC 27597 Office 252-478-3721 Fax 919-573-0443 1nstaller@gmail.com		PREPARED FOR : David Brantley & Sons 37 Pine Ridge Rd. Zebulon, NC 27597		REVISION NO. Original Submitted	DATE April 11, 2014	BRANTLEY TASK MODEL 1,500 ST 322
		DATE : April 11, 2014		Revision 1		SHEET NUMBER 1 of 1
		CONTACT: CORY BRANTLEY		Revision 2		
				Revision 3		
				Master Set		



1,500 PT 293

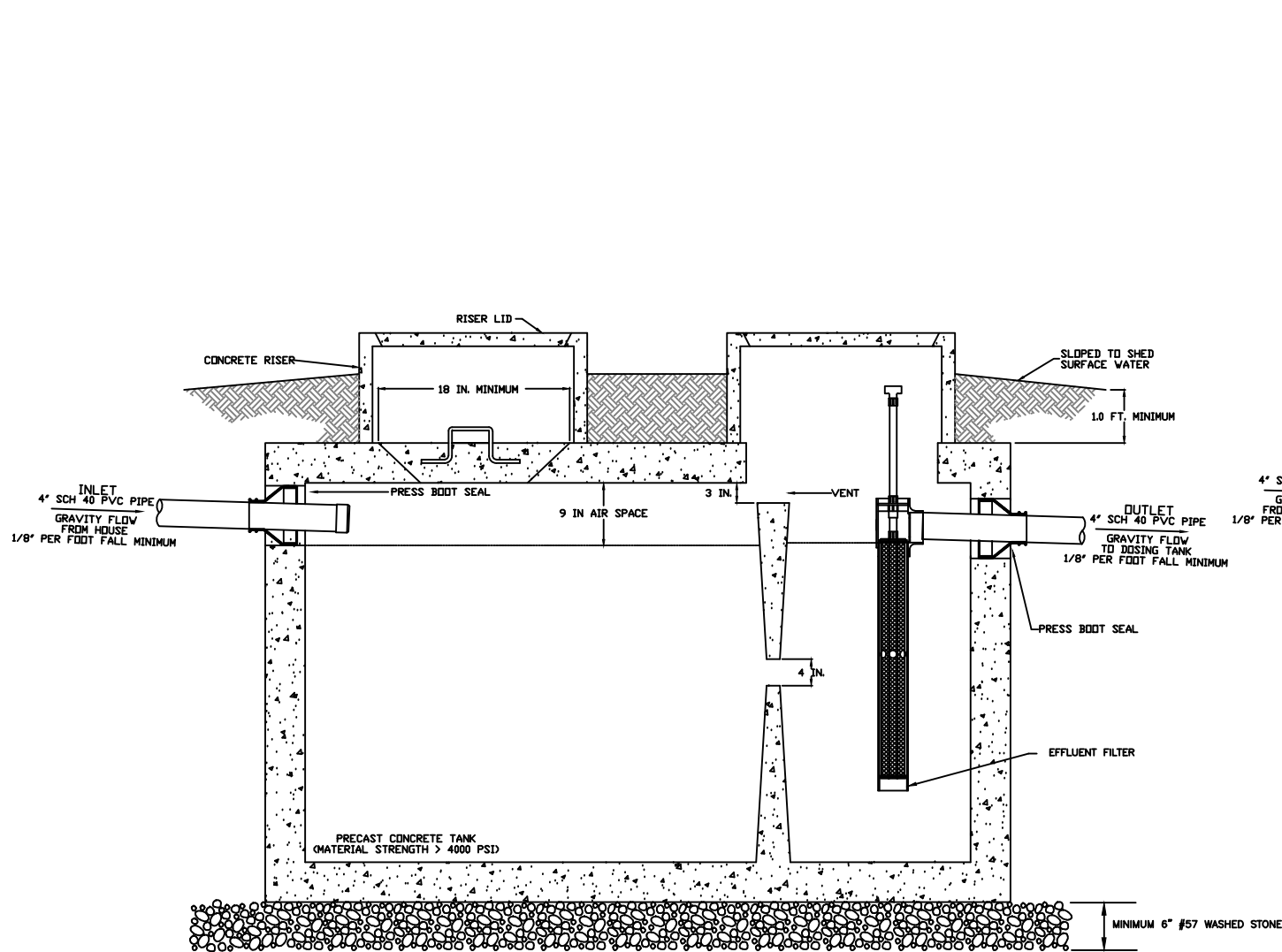
NTS

NON TRAFFIC BEARING

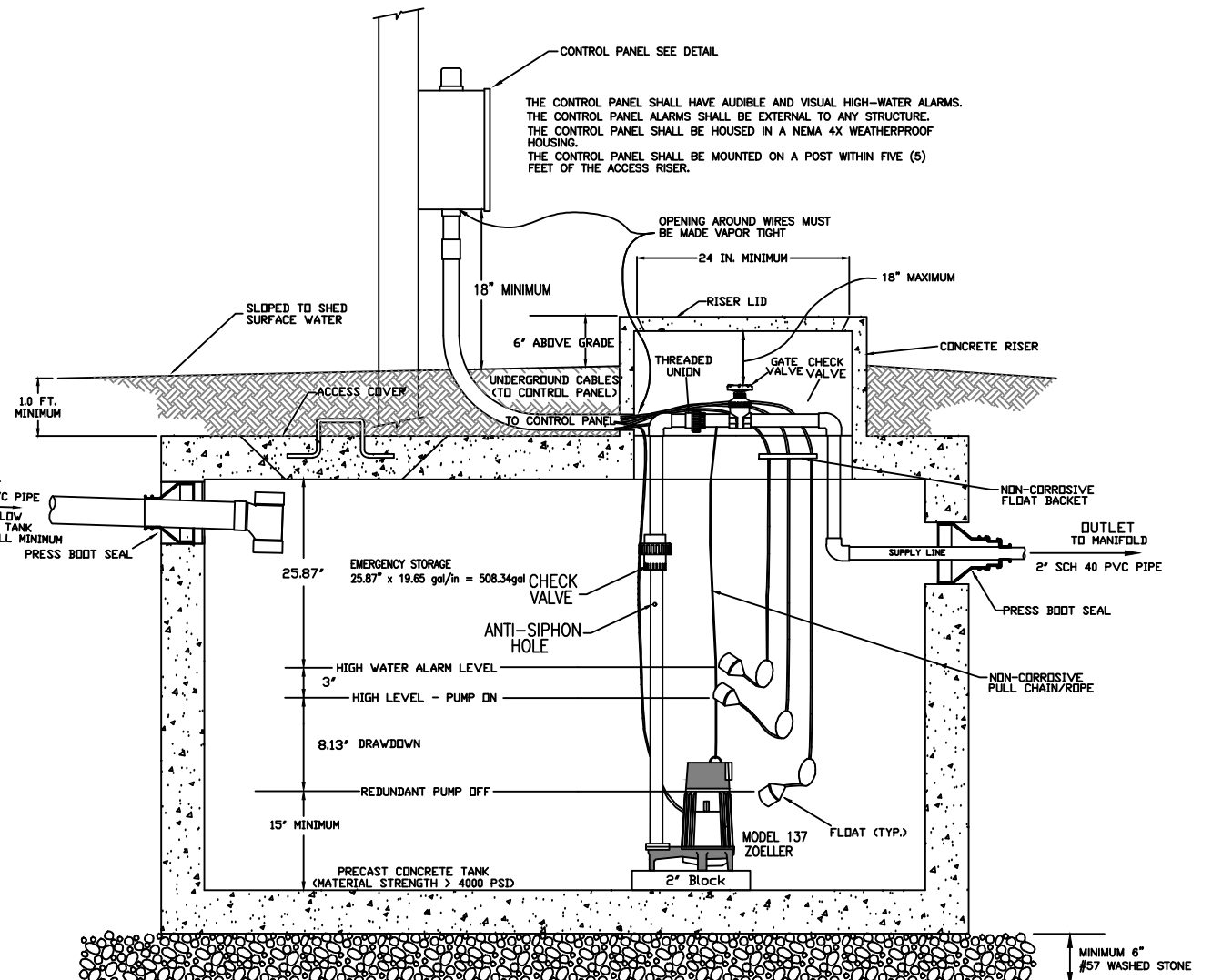
PREPARED FOR :	David Brantley & Sons 37 Pine Ridge Rd. Zebulon, NC 27597
DATE :	April 11, 2014
CONTACT:	CORY BRANTLEY

DAVID BRANTLEY & SONS
37 Pine Ridge Rd.
Zebulon, NC 27597
Office 252-478-3721
Fax 919-573-0443
tinstaller@gmail.com

BRANTLEY TANK MODEL	
1,500 PT 293	
SHEET NUMBER	
1 of 1	



1500 GAL SEPTIC TANK SCHEMATIC
NOT TO SCALE



1500 GAL Brantley PT-293 PUMP TANK SCHEMATIC
NOT TO SCALE

NOTES

1. ALL TANKS SHALL BE LEAK TESTED SUCH THAT EXFILTRATION OCCURS AT A RATE WHICH DOES NOT EXCEED TEN GALLONS PER TWENTY-FOUR HOURS PER 1,000 GALLONS OF TANK CAPACITY.
2. ALL TANKS SHALL REST ON A BED OF #57 WASHED GRAVEL. THE MINIMUM THICKNESS OF THE GRAVEL BED IS 6 INCHES.
3. ALL TANKS MUST BE APPROVED FOR USE BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL HEALTH (DEH).
4. INVERTS SHOWN ARE APPROXIMATE. THE INSTALLER SHALL FIELD CONFIRM PRIOR TO CONSTRUCTION.
5. ALL HARDWARE INSTALLED INSIDE OF TANKS SHALL BE OF STAINLESS STEEL.
6. TANK DIMENSIONS VARY BY MANUFACTURER.
7. DRAWDOWN WILL VARY WITH TANK DIMENSIONS. DRAWDOWN SHOWN IS BASED ON 600 GALLONS AT 30.65 GALLONS PER INCH (BRANTLEY TANK).
8. NO ELECTRICAL SPLICES SHALL BE MADE INSIDE THE PUMP TANK.

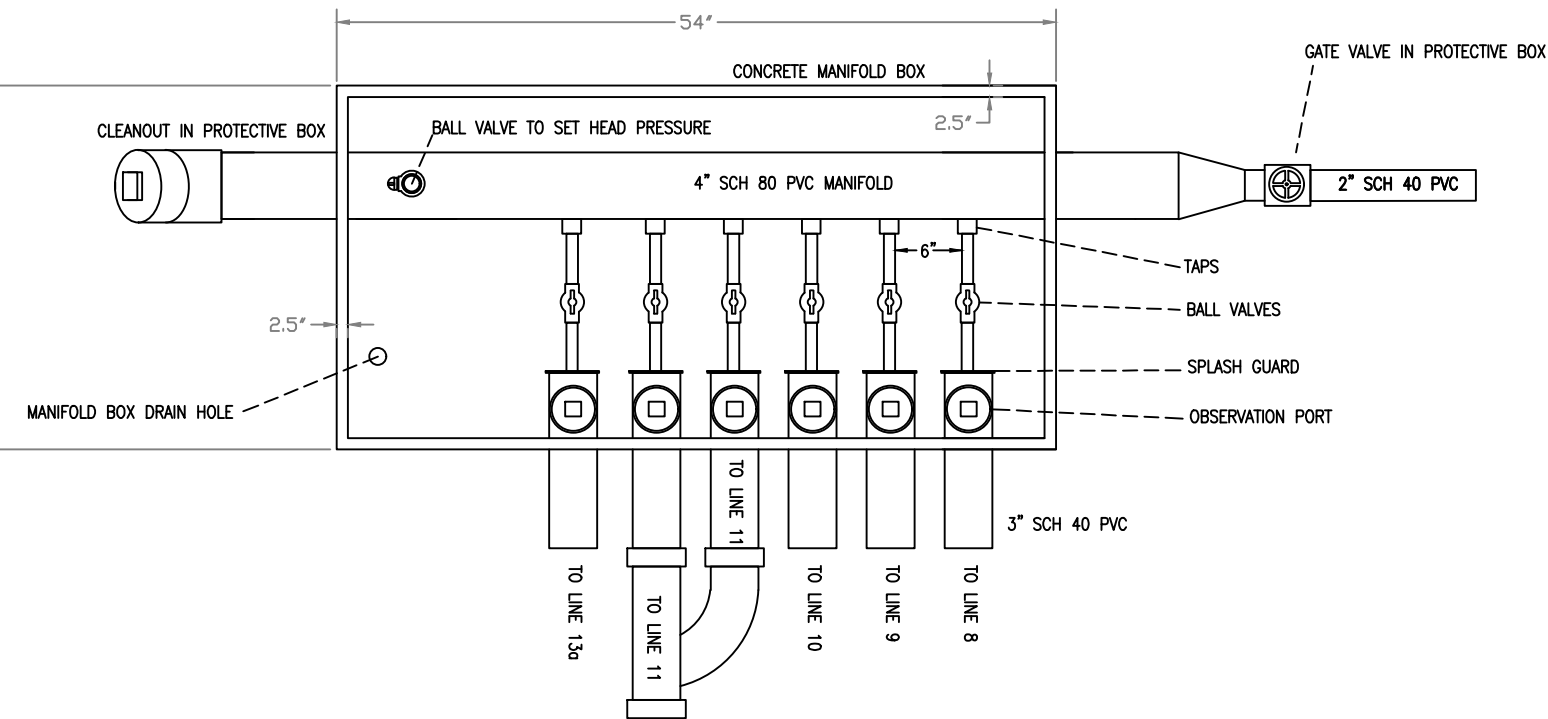


Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703

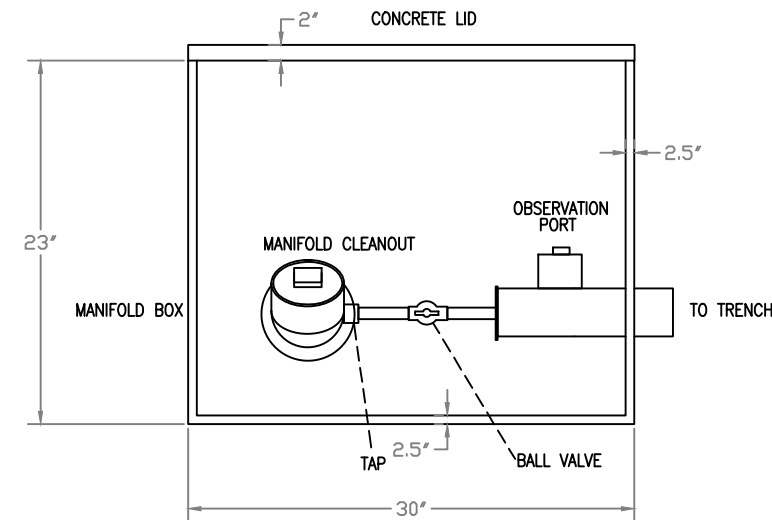
Septic and Pump Tank Details
Southern Hills S/D Lot 30
Wake County, North Carolina

Job# : 3137
Drawn By : AH
Date : 1/20/2020
Revision : 00/00/0000

PRESSURE MANIFOLD DETAILS
TOP VIEW

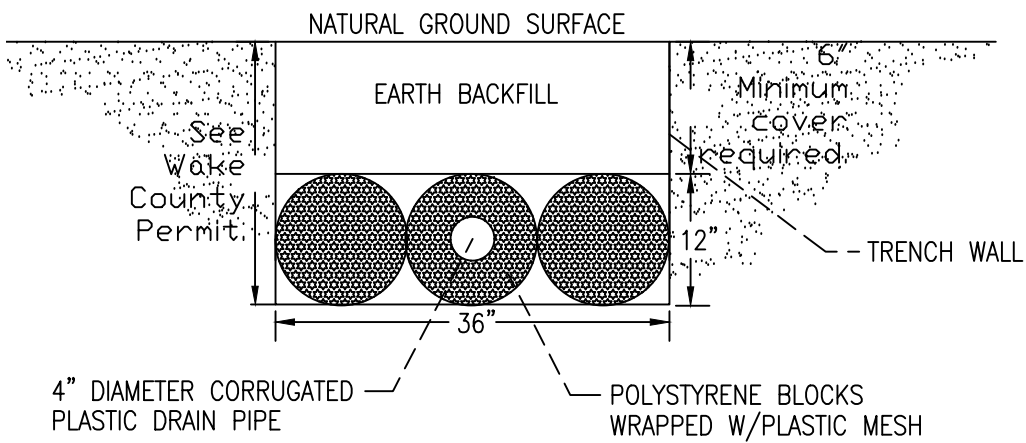


PRESSURE MANIFOLD DETAILS
END VIEW



TAP SCHEDULE	
LINE #	TAP
1	$\frac{1}{2}$ " SCH 40
2	$\frac{1}{2}$ " SCH 40
3	$\frac{3}{4}$ " SCH 40
4	$\frac{1}{2}$ " SCH 40
4	$\frac{1}{2}$ " SCH 40
5	$\frac{1}{2}$ " SCH 40

EZ-FLOW DETAILS



NOTE :

1. EZ-FLOW INSTALLATION SHALL MEET THE REQUIREMENTS INCLUDED IN ITS INNOVATIVE APPROVAL
2. TRENCH BOTTOM SHALL BE AT LEAST 12" FROM ANY RESTRICTIVE SOIL LAYER
3. END CAP SHALL BE PROVIDED AT END OF ALL CORRUGATED PLASTIC PIPE LINES AND TRENCH BOTTOMS SHALL BE LEVEL
4. THIS IS A GENERIC TRENCH PROFILE SEE COUNTY PERMIT FOR TRENCH DEPTH.

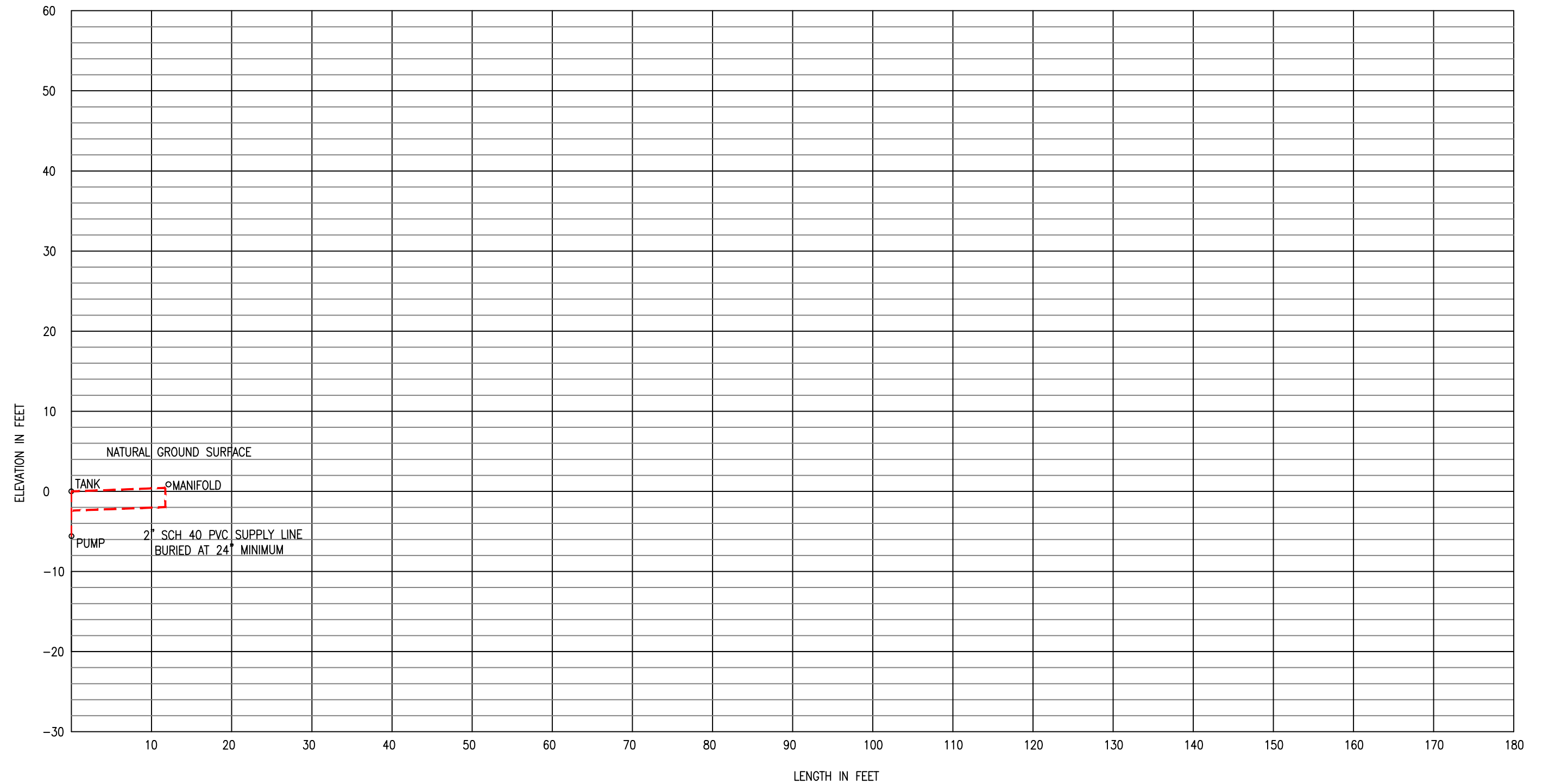


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1900 South Main Street, Suite 110
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Phone (919)569-6704 Fax (919)569-6703

Manifold and Trench Details
Southern Hills S/D Lot 30
Wake County, North Carolina

Job# : 3137
Drawn By : AH
Date : 1/20/2020
Revision : 00/00/0000

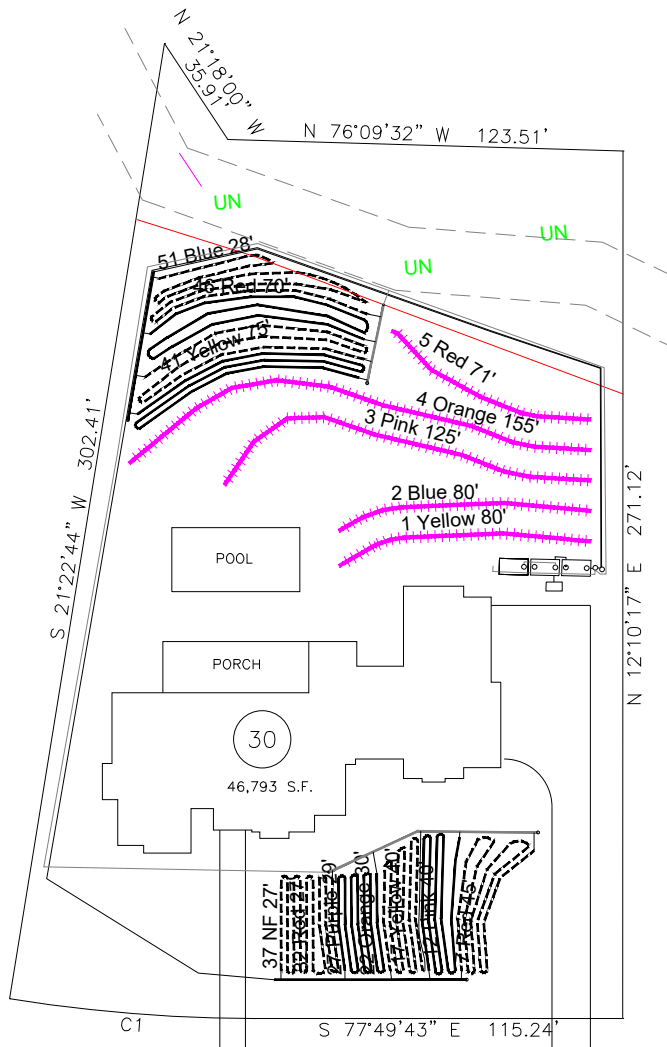
SUPPLY LINE
HYDRAULIC PROFILE



Central Carolina Soil Consulting, PLLC
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Wake Forest, North Carolina 27587
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Hydraulic Profile
Southern Hills S/D Lot 30
Wake County, North Carolina

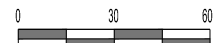
Job# :3137
Drawn By : AH
Date : 1/20/2020
Revision : 00/00/2017



LINE SCHEDULE REPAIR				
LINE NUMBER	COLOR	FIELD ELEVATION	LENGTH	DESIGN LENGTH
			45	
7	RED	3.30	45	
			44	
			43	
			42	(1) 219
			41	
12	PINK	3.9	40	
			40	
			40	
			40	(2) 201
			40	
17	YELLOW	4.2	40	
			38	
			36	
			34	
			32	(3) 220
22	ORANGE	4.7	30	
			30	
			30	
			29	
			29	
27	PURPLE	5.2	29	
			29	(4) 206
			28	
			28	
			27	
32	RED	5.70	27	
			27	
			27	
			27	
37	NF	6.2	27	(5) 245
			75	
			75	
			75	(6) 225
41	YELLOW	14.4	75	
			74	
			73	(7) 222
			72	
			71	
46	RED	15.5	70	(8) 213
			70	
			70	
			70	
			45	
			38	
51	BLUE	15.9	28	(9) 251

System: Pressure Manifold
Lines: 1-5, (511')
Accepted Status System
0.3 Soil LTAR
24" Trench Bottom

Repair: Subsurface Drip
Lines: 6-51
EZ-Treat Drip TS II
0.15 Soil LTAR
6" Trench Bottom



SCALE:
1" = 60 ft.



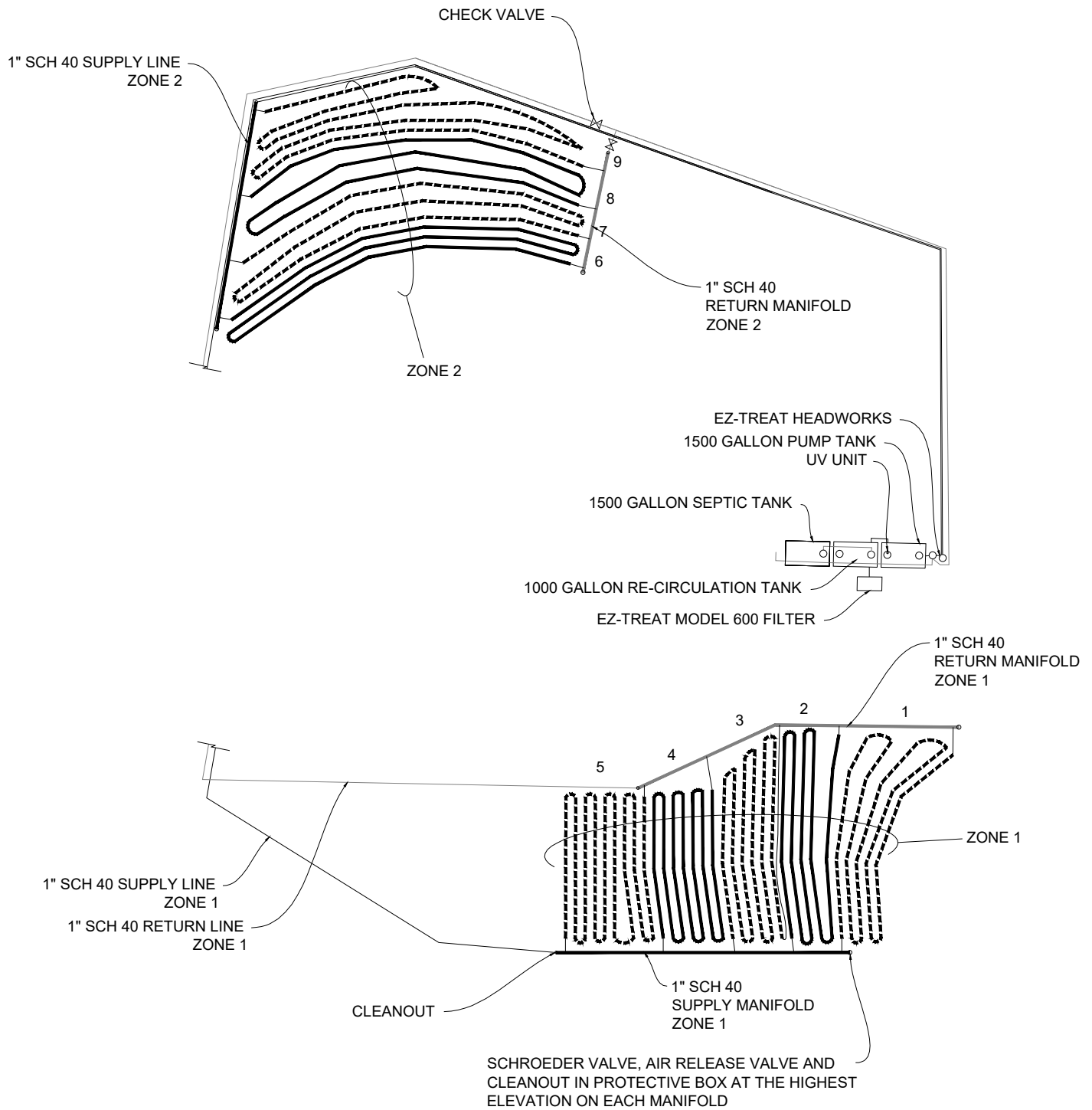
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**Septic System Layout
(REPAIR)**
Southern Hills Lot 30
Wake County, North Carolina

Job# : 3137
Drawn By : TMB
Date : 02/10/2020
Revision: 02/25/2020

DRIP SYSTEM DETAIL

(NOT TO SCALE)



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 1900 South Main Street, Suite 110
 Wake Forest, North Carolina 27587
 Phone (919)569-6704 Fax (919)569-6703

DRIP SYSTEM DETAIL
 Southern Hills Lot 30
 Wake County, North Carolina

Job# : 3137
Drawn By : TMB
Date : 02/10/2020
Revision: 02/17/2020

E-Z Set Drip Field Calculations

Job Description:	Southern Hills Lot 30
Contact:	
Prepared by:	Matt Burdette
Date:	10-Feb-20

Please **fill in the shaded areas and drop down menus**:

This spreadsheet serves as a guide, and is not a complete hydraulic design.

Worksheet 1- Field Flow

Total field

Total Quantity of effluent to be disposed per day	600	gallons / day
Hydraulic loading rate	0.15	gallons / sq.ft. / day
Total Dispersal Field Area	4,000	square ft.

Flow per zone

Number of Zones	2	zone(s)
Dispersal area per zone	2,000	square ft.
Choose line spacing between drip lines	2	ft.
Choose emitter spacing between drip emitters	2	ft.
Total linear ft. per zone (minimum required)	1,000	ft. per zone
Total number of emitters per zone	500	emitters per zone
Select Wasteflow dripline (16mm)	Wasteflow PC - 1/2gph	dripline
Pressure at the beginning of the dripline	30	psi
Feet of Head at the beginning of the dripline	69.3	ft.
What is the flow rate per emitter in gph?	0.53	gph
Dose flow per zone	4.42	gpm

Note: A few States or Counties require additional flow for flushing. Please check your local regulations.

Flush velocity in this spreadsheet below is for PC dripline only. Classic dripline usually requires less flow to flush than PC.

Please refer to Geoflow's spreadsheet called "Design Flow and Flush Curves" at www.geoflow.com or call 800-828-3388.

If required, choose flush velocity	1.2	ft/sec
How many lines of dripline per zone?	5	lines
Fill in the actual length of longest dripline lateral	251	ft.
Max. allowable length of a single drip line	535	ft.
Flush flow required at the end of each dripline	0.89	gpm
Total Flow required to achieve flushing velocity	4.44	gpm
Total Flow per zone- worst case scenario	8.86	gpm

Select Filters and zone valves

Select pipe diameters for manifolds and submains	1	inch
Select Filter Type	Vortex Screen Filter	
Recommended Filter (item no.)	AP4E-1.5	
Select Zone Valve Type	None	-
Recommended Zone Valve (item no.)	0	

Check below to choose quantity and length of daily doses

Dosing

Number of doses per day / zone:	12	doses
Timer ON. Pump run time per dose/zone:	5.40	mins:secs
Timer OFF. Pump off time between doses	1.54	hrs:mins
Per Zone - Pump run time per day/zone:	1:07	hrs:mins
All Zones - Number of doses per day / all zones	24	doses / day
All Zones - Pump run time per day/ all zones:	2:15	hrs:mins

E-Z Set Drip Pump Calculations

Job Description:	Southern Hills Lot 30
Contact:	0
Prepared by:	Matt Burdette
Date:	2/10/2020

Please fill in the shaded areas and drop down menus:

This spreadsheet serves as a guide, and is not a complete hydraulic design.

Pressure losses may be grossly overstated, particularly if designing with Non PC dripline.

The letters on the diagram(right) match the letters in section 2 below.

Worksheet - Pump Sizing

Section 1 - Summary from Worksheet 1

Flow required to dose field	4.42 gpm
Flow required to flush field	4.44 gpm
Flow required to dose & flush field	8.86 gpm
Filter	AP4E-1.5
No. of Zones	2 zones
Zone valve	-
Dripline	Wasteflow PC - 1/2gph
Dripline longest lateral	251 ft.

Section 2	Ft of head	Pressure
A. Flush line - Losses from end of dripfield to tank		
Return header pipe size	1 inch	
Pressure loss in 100 ft of pipe	5.52 ft.	2.39 psi
Distance from furthest dripline end back to tank	570 ft.	
Equivalent length of fittings	25 ft.	57.75
Elevation increase or decrease	-7 ft.	
Total pressure loss from end of dripline to return tank	25.8 ft.	11.19 psi
B. Dripline - Losses through Wasteflow dripline		
Fill in the length of longest dripline lateral	251 ft.	
Minimum pressure required at end of dripline	23.10 ft.	10.00 psi
Loss through dripline during flushing	8.45 ft.	3.66 psi
Total minimum required dripline pressure	31.55 ft.	13.66 psi
A+B. Minimum Pressure required at beginning of dripfield		
CALCULATED pressure required at beginning of dripfield	57.40 ft.	24.85 psi
SPECIFIED pressure at beginning of dripfield (from worksht 1)	69.3 ft.	30.00 psi
Great! SPECIFIED Pressure is greater than CALCULATED Pressure requirement. Go to next step		
C. Drip components - Losses through components		
Filter	4.6 ft.	2.00 psi
Zone valve (not in diagram)	- ft.	- psi
Flow meter (not in diagram)	4.62 ft.	2.00 psi
Other	- ft.	psi
Total loss through drip components	9.24 ft.	4.00 psi
D. Supply line - Minimum Pressure head required to get from pump tank to top of dripfield		
Supply Header Pipe Size from Worksheet 1	1 inch	
Pressure loss/gain in 100 ft. of pipe	5.52 ft.	2.39 psi
Distance from pump to furthest dripline	560 ft.	
Equivalent length of fittings	25 ft.	psi
Height from pump to tank outlet	5 ft.	psi
Elevation increase or decrease	7 ft.	3.03 psi
Total gain or loss from pump to field	44.3 ft.	19.18 psi
Total dynamic head	122.8 ft.	53.18 psi
Pump capacity *	8.9 gpm	

* Note: Pump capacity flow assumes flow in dripline does not change during a dose cycle. With Non PC drip For more accurate flows please contact E-Z Set.

If you need assistance designing for this additional flow, please

-Contact E-Z Set @ 703-408-2916

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED

PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR INTENDED USE CHANGED

IMPROVEMENT PERMIT

PERMIT #: WRP-030130-2019

APPLICATION DATE: 12/12/2019

BLDG. PERMIT #: RBPR-031269-2020

PIN: 0890138608

RECORDED: Yes

TOWNSHIP: 02 - Bartons Creek

JURISDICTION: Wake County

ZONING: R-80W

APPLICANT: Raleigh Custom Homes
6736 Falls of Neuse RD

BUSINESS PHONE: (919) 847-2664

HOME PHONE:

MOBILE PHONE:

HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE

EXISTING USE:

SITE ADDRESS: 1417 SKY VISTA WAY

SUBDIVISION: SOUTHERN HILLS ESTATES

LOT: 30

ACRES: 1.07

DIRECTIONS: 540 to Creedmoor Rd North, Left on Shooting Club, Right on Estate Valley, Right on Sky Vista

Permit is subject to revocation if the Site Plan or Plat changes or the intended use changes.

*Maximum depth of line is calculated using the downhill side of the trench and includes slope correction.

IP VALID FOR: Five Years AS PER GS 130A-335 (f)

DESIGNED BY: CCSC

SYSTEM LAYOUT: Private Sector

SITE CLASSIFICATION: Provisionally Suitable

IP STATUS: Issued

BY: Jeremy Davis

DATE: 02/18/2020

NUMBER OF BEDROOMS: 5

OR TOTAL NUMBER OF OCCUPANTS: 10

PERMITTED DESIGN FLOW: 600 GPD

BASEMENT: No

BASEMENT PLUMBING: No

WASTEWATER STRENGTH: Domestic

SYSTEM TYPE: III B

LTAR: 0.300

EXISTING SYSTEM UTILIZED: No

PRETREATMENT STRENGTH REQUIRED: None

EASEMENT FOR WW SYSTEM ASSOCIATED WITH PARCEL: No

MAXIMUM TRENCH DEPTH: 24 INCHES

PUMP REQUIRED: Yes

SPECIFIC SYSTEM REQUIREMENTS: -System designed for 5 bedroom home, having 600 gals per day (Design Flow)

-Future Repair is a VC type system. With a Max Trench depth of 6" and a 0.15 LTAR.

-Site serviced by Community Well water.

-No cutting, grading, alterations, or utilities in septic area.

-Maintain all required setbacks.

ISSUED BY:

A handwritten signature in black ink, appearing to be 'J. S. Di', is displayed on a light blue rectangular background.

DATE: 02/18/2020

PLOT PLAN FOR
RALEIGH CUSTOM HOMES
1417 SKY VISTA WAY
LOT 30, SOUTHERN HILLS ESTATES
BARTON'S CREEK TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

DANIEL C. MARTIN &
ANGELA MARTIN
B.M. 1985, PG. 1365
D.B. 16246, PG. 1599

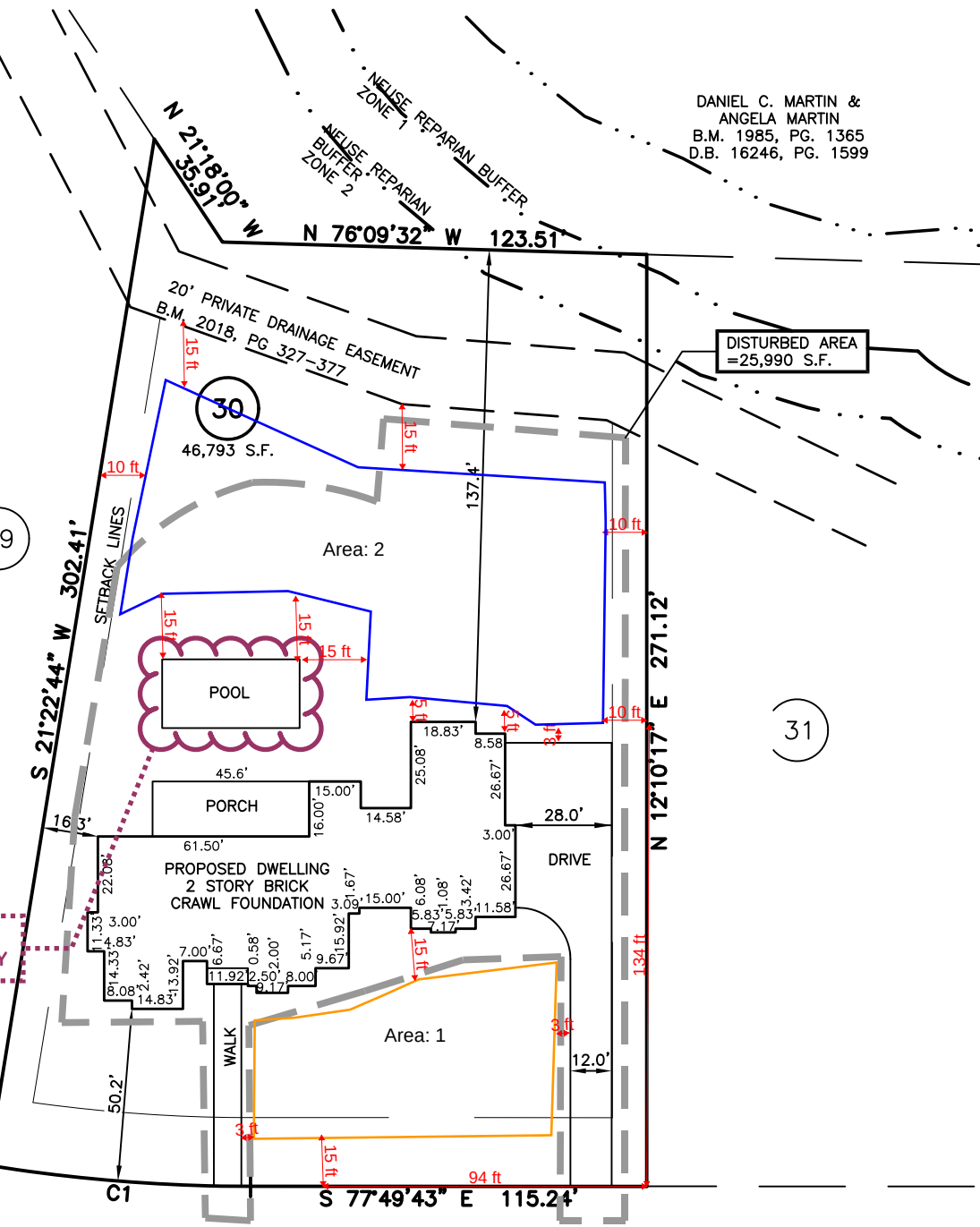
LEGEND

- AIR CONDITIONER
- BACK FLOW PREVENTER
- CURB INLET
- CLEANOUT
- EXISTING CONCRETE MONUMENT
- EXISTING DRILL HOLE
- EXISTING IRON STAKE
- EXISTING IRON PIPE
- ELECTRIC METER
- EXISTING PK NAIL
- ELECTRIC STUB
- FLARED END SECTION
- FIRE HYDRANT
- FIBER OPTIC PEDESTAL
- GAS METER
- GUY
- INVERT
- IRON PIPE SET
- IRON ROD SET
- LIGHT POLE
- MANHOLE SANITARY SEWER
- MANHOLE STORM SEWER
- NEW DRILL HOLE
- PK NAIL SET
- OVERHEAD WIRES
- POINT NOT SET
- RAIL ROAD SPIKE
- TOP BACK OF CURB
- TELEPHONE PEDESTAL
- TRANSFORMER
- CABLE TV PEDESTAL
- UTILITY POLE
- WATER METER
- WATER VALVE
- YARD INLET
- FIELD MEASUREMENT

29

31

Pool
SEPTIC PURPOSES ONLY



SKY VISTA WAY
45' PRIVATE R/W

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	76.74'	477.50'	9°12'30"	N 73°13'28" W	76.66'

IMPERVIOUS SURFACE TABLE

HOUSE.....	5,660 S.F.
PORCH.....	730 S.F.
WALK.....	470 S.F.
DRIVE.....	2,440 S.F.
TOTAL IMPERVIOUS.....	9,300 S.F.
ALLOWABLE IMPERVIOUS =	12,500 S.F.
PERCENTAGE IMPERVIOUS =	19.9%

SETBACK INFO

FRONT:	20'
REAR:	15'
SIDES:	10'
CORNER SIDE:	20'

REFERENCES:

B.M. 2018, PG. 372-377



SCALE: 1" = 50'

NOTES

- THIS SURVEY SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED BY A FULL AND ACCURATE TITLE SEARCH.
- THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS.

PLOT PLAN
PRELIMINARY PLAT- NOT FOR RECORDATION,
CONVEYANCE OR SALES

REV CODE: 1.FLIP, 2.PLAN, 3.ROTATE, 4.MOVE, 5.SS
6.SEVERAL OF ABOVE, 7.LAND FEATURE, 8. OTHER

REV5: JAN. 27, 2020(8)
REV4: JAN. 22, 2020(8)
REV3: JAN. 10, 2020(8)
REV2: JAN. 9, 2020(8)
REV1: JAN. 3, 2020(8)
DATE: JAN. 2, 2020
F.B. _____

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ENGINEERING ~ SURVEYING
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FAX (919) 779-4056